GREAT DEBATE: IS 'RUNNING IN' WORTH IT?

australian
hi-fi

REVIEWED

PERSONAL PARADISE

Yamaha's perfect headphones partner

-37.5
dB
SACD
Phase: IN
HALCRO
HALCRO Equinox Preamplifier
CONTROL
HALCRO Equinox Preamplifier

REVIEWED

WORLD-CLASS CONTROL

Halcro's Equinox preamp bests our test bench

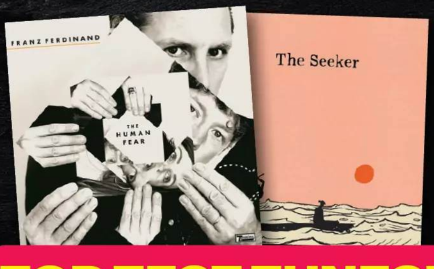
REVIEWED

FUTURE-FI

All you need in just two boxes

SOUL SOOTHER

Soulnote DAC suits every audiophile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+ New releases by John Cale, Pete Townshend & Franz Ferdinand

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ISSUE 539
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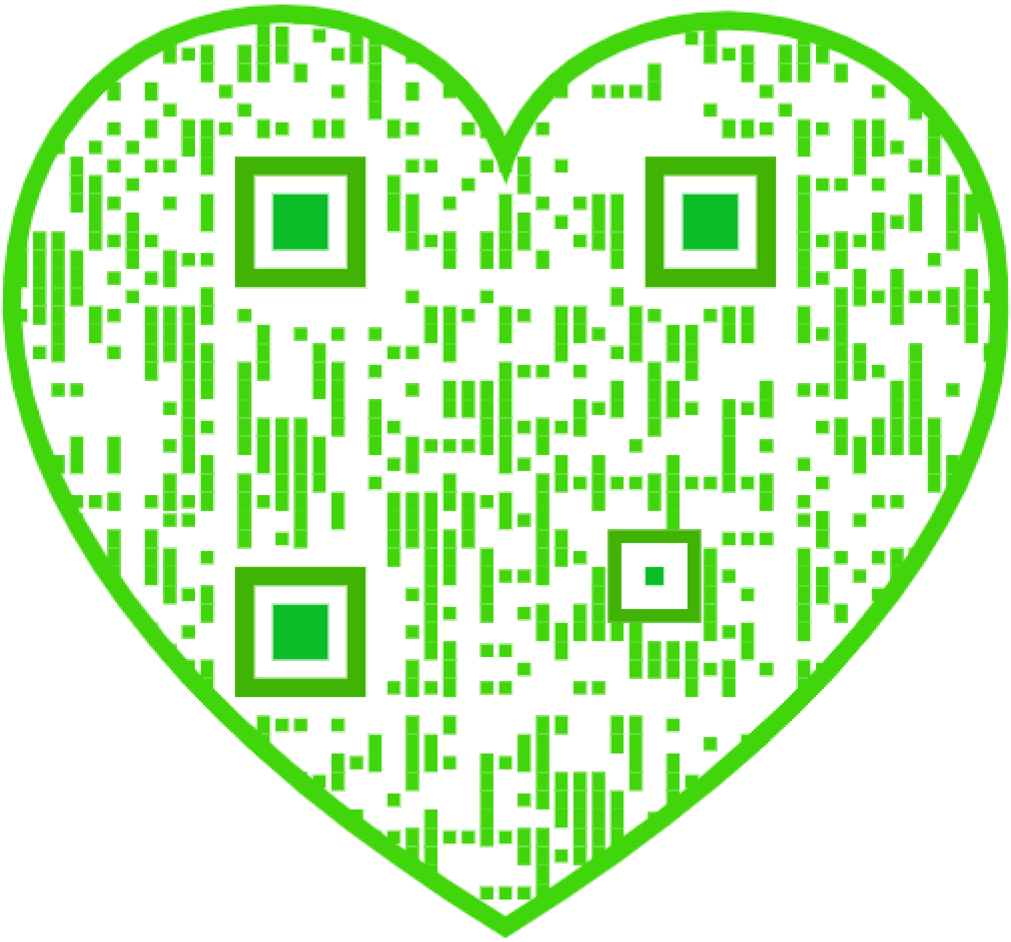

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Editor's lead in

I had a bit of fun in the week leading up to Christmas — and I'm not referring to the beach barbecue or pavlova decorating kind of fun (although I might've indulged in a little of that… when in Oz etc.) With no hi-fi deliveries to accept before the new year, I time-travelled back to my childhood years, rewound my modernised brain and dusted off what remains of my physical music collection to spend some time with a CD Discman and a cassette player. And not decrepit machines I had found in a Salvos but devices launched just recently, would you believe, by FiiO. Indeed, Jack White, Taylor Swift, Phoebe Bridgers and other fellow tape-backing artists, not to mention Disney with its best-selling 'Guardians Of The Galaxy: Awesome Mix Volume' tapes, would no doubt be fans of the Chinese manufacturer's 'Retro Product' category.

Now, I don't expect either legacy portable device or format to take off in the same way the turntable and record have done over the past decade, despite the recent rise in CD's popularity and the efforts of some artists and film studios to release cassette tapes — but, in my mind anyway, that doesn't mean they shouldn't exist as niche offerings.

Indeed, both products will likely find niche audiences. 2025 won't be the year Discmans line shop shelves where iPods used to be, or when we see people using pencils to fix tapes on trams. The plausible scenario I imagine for FiiO's DM13 Discman takes place on a sofa. Wired headphones are connected to it, and on the other side of that cable are the ears of someone who predominantly plays music on their laptop or on a home system, probably via a streaming service, but who still cherishes a CD collection that they want to play occasionally via a flexible and affordable source. Naturally, that's a far cry from the product's initial milieu in the late 1980s and 90s, where they would go everywhere with you — as phones do today.

There are visual giveaways that the DM13 is the brainchild of a product team or engineer in the 21st century and not the 90s. The blue-on-black LCD display is much more à la mode than the old players' black-on-green/grey screens that used to match your bedside alarm clock. There are 4.4mm balanced and 3.5mm coax/optical outputs and two USB-C inputs (one is for CD ripping, handily), plus modern DAC architecture and the like that make for a surprisingly decent-sounding spinner. It's significantly clearer, fuller, punchier and more musically adroit than the albums sounded streamed from my Macbook (although the preference expectedly fell the other way once I added my most modest DAC, around $600, to the laptop chain).

I don't love the DM13's functional-over-fun, square-ish design — forget the fugly former players of the 80s/90s; Discmans should be round! — but FiiO certainly got the shape and aesthetic spot on with its CP13 cassette player, whose red and big-buttoned body wouldn't look out of place as a prop in a Lego movie. It's wonderfully tactile, too: those large buttons are satisfyingly noisy, the cogs turn before your eyes and, if you put your ear to the machine, you can hear their mechanical whirr.

FiiO says it negotiated with its supplier to only use the highest-quality cassette heads ("less than 40 per cent of what is produced") and that the head has a thicker-than-usual cover for better shielding. It also chose a larger copper flywheel that supposedly helps the tape reel move smoothly and keep wow and flutter low, as well as a higher-voltage power supply than is typical, which works alongside a motor speed stabilisation circuit to ensure stable speed and reduce rogue pitch changes.

The quality shines through the performance, which was enjoyably sparkly up top, pretty detailed and spacious all-round, and overall nicely clear and coherent. Sure, it was a bit bereft of bass and, naturally, that digital polish we've all become accustomed to. But on the whole I was yet again impressed.

It would well serve the small audience of cassette fans whose old player has gone bust, or who have never owned one. I imagine they would be attracted to the evocative design, attractive price ($180) and decent sound in a market where options are very few.

rebecca.roberts@futurenet.com

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ONKYO
ONKYO

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Getting better sound doesn't have to cost more money — just a little TLC. Here's how to make your loudspeakers perform better for nothing (or very little outlay).

06 Editor's Lead-In

I had a bit of fun in the week before Christmas, living with FiiO's new (!) portable Discman and cassette player to test their modern-day merit, giving me an excuse to dust off some old tapes and CDs...

FRANZ FERDINAND
THE HUMAN FEAR

Music

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The catalogue of Melanie Safka, who passed last January at the age of 76, finally gets the respect it deserves. You can get up nice and close to Albert King and Stevie Ray Vaughan, who joined forces for a Canadian TV show recorded in 1983, too. Plus, re-releases from John Cale, Violent Femmes and Tom Petty and the Heartbreakers.

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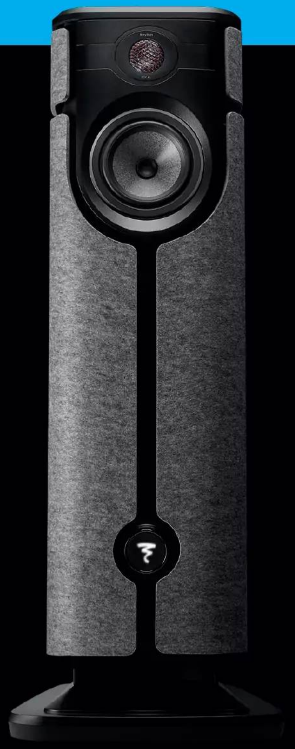

64 High-End Review #1

Out of France comes a high-end active speaker system that, when it comes to clarity, precision and bass performance, has little to fear from a similarly priced system of separates.

68 High-End Review #2

One of the world's finest amplifier manufacturers bolsters its new-era lineup with a preamp that will satisfy even the most discerning listeners who "demand the very best".

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+ New releases by Pete Townsend, Franz Ferdinand & John Cale

OUR FRONT COVER

This issue's cover champions one of Australia's leading lights, plus ambitious efforts from Focal, Yamaha and Soulnote that have more than paid off.

High-end convenience

Healthy, five-figure budgets can buy a decent-performing haul of separates, but the attraction of going down the alternative integrated electronics route and minimising boxes is plain to see — particularly when giants of the high-end industry such as McIntosh are launching machines like the MSA5500.

McIntosh has designed this streaming amplifier to become a "cornerstone" of your audio setup, built to fit into various spaces and systems while offering amplification, streaming capabilities and a host of physical connectivity options in a single premium unit.

The MSA5500 delivers 100 watts per channel into eight ohms and houses the brand's "audiophile-grade" balanced 32-bit DAC for supposedly outstanding dynamic range and low distortion. A raft of established McIntosh technologies is predictably present and correct, including Power Guard, which prevents audio clipping, and Sentry Monitor, another preventative technology, this time against against short-circuits.

Capable of 32-bit/384kHz PCM and DSD512 playback, the MSA5500 accommodates a wide variety of sources. Network streaming comes via a range of platforms and services — AirPlay 2, Google Chromecast, Spotify Connect and Tidal Connect. Also onboard is Bluetooth 5.0, with support for Qualcomm's aptX HD and aptX Adaptive codecs.

As for physical connections, you get a moving-magnet phono stage input and HDMI ARC for hooking up a turntable and TV respectively. The MSA5500 also houses dual coaxial and optical inputs, plus four pairs of RCA and one set of balanced XLR on the analogue input side. Complementing five outputs (four RCAs and a sub-out) is a 6.35mm headphone socket, the dedicated amplifier driving it complete with McIntosh's Headphone Crossfeed Director (HXD) technology, which aims to deliver the sense of depth and space more typically associated with listening to a hi-fi system rather than through headphones.

McIntosh
MSA5500 STREAMING INTEGRATED AMPLIFIER
POWER OUTPUT
STREAMING 50%
Spotify
INPUT
HEADPHONE
VOLUME

The MSA5500's exterior naturally carries those distinctive McIntosh genes, too, evidenced by the glowing blue power meters, black glass frontage, rotary control knobs and illuminated company logo.

The MSA5500 costs $16,495 and is available now.

For more information, contact Synergy Audio Visual on (03) 9459 7474 or visit www.synergyaudio.com

Spin it all

Denon closed out last year by adding a brand-new SACD/CD player, the DCD-3000NE, to its Reference Series. It is no small secret that CDs and disc players are quietly but surely having a bit of a revival, so a dedicated, high-performing SACD/CD player from a brand such as Denon is cause for celebration for fans of the physical format.

The new player has been meticulously tuned, says Denon, to "reveal unprecedented sonic detail in all of your favourite music".

The DCD-3000NE can play ball with a variety of digital audio, from CDs and SACDs to MP3 and FLAC files. It can also play CD-R/RWs and DVD-R/RWs in addition to DSD files (2.8MHz and 5.6MHz). Outputs include one pair of analogue RCA, one digital coaxial and one digital optical.

The DCD-3000NE features a 32-bit/384kHz DAC in a quad configuration,

ULTRA AL32 PROCESSING
Track 1
Track Time 2:05
SUPER AUDIO CD PLAYER DCD-3000NE

along with Denon's own proprietary Ultra AL32 Processing, which uses interpolation algorithms to fill in missing data points before and after significant data gaps, essentially upsampling audio signals for a 'high-resolution output'. Meanwhile, the brand's patented vibration-suppression drive mechanism ensures that discs load swiftly and spin with precision, allowing their data to be read accurately by the player.

Additionally, high-quality components and an advanced master clock aim to deliver distortion-free sound, while a 'Pure Direct' mode gives owners the option of turning off the display and digital outputs to prevent any interference from affecting the audio signal.

The Denon DCD-3000NE comes with a remote control and is available in black or silver finishes for $4,999.

For more information, contact Masimo Australia on 1300 627466 or visit www.denon.com

The Hi-Fi Headlines

NEWSLETTER NO.269

Model 10 Integrated Amplifier

Marantz releases 10 Series

Some months ago, Marantz announced they would be taking their brand upmarket, and their new 10 Series proves they were very serious about it. The 10 Series consists of three models:

Model 10 Integrated Amplifier: $25,000
SACD 10 CD Player: $19,000
Link 10n Streaming Pre-Amp: $19,000

To date, we have only received the first two models, but we hope to have the streamer by the time you read this. Marantz has a well-deserved reputation for build quality, but this series takes that to another level. It exudes quality; the build is exquisite, and the performance matches the finish. This series was intended to be statement pieces, designed to perform at the highest level and last a lifetime, and Marantz has delivered.

Link 10n Streaming Pre-Amp

SACD 10 CD Player

New Technics Turntable

Another high-quality release comes from Technics. No stranger to performance turntables, their new SL-1300 is a welcomed addition to their range. Borrowing in part from its upmarket sibling, the SL-1200G, but dispensing with the trademark pitch control and strobe, which, aesthetics aside, I doubt will be missed. Pitch stability is one of the hallmarks of Technics, and the SL-1300 utilizes dual rotors for the direct drive motor, unlike the single rotor in their smaller models.

The engineering is exceptional; for example, the platter consists of layers of brass, die-cast aluminum, and rubber. The body is also dual-layered, and the entire structure is isolated from the shelving via silicon rubber dampers. Once again, this is a product designed to last a lifetime. The SL-1300 sells for $4,999 (without cartridge) and is available in both silver and black and if you are in Sydney, you can come and experience it at our Showroom.

Fun with Leica

Leica, who last year released their top-of-the-market Cine 1 short-throw projector, has now introduced the Cine Play 1 4K portable laser projector. This is quite a unique product: a stand-mounted projector that can be placed anywhere in a room. As long as it points at a surface—be it a projection screen, a blank wall, or even a sheet hanging from a clothesline—it will automatically align and focus the image.

Despite its incredible flexibility, the Cine Play 1 is also a very high-quality projector. The combination of 4K resolution, triple RGB-laser technology, and Leica's legendary Summicron lens results in a very impressive image, better than some similarly priced fixed projectors we've seen.

The Cine Play 1 also features built-in speakers with DTS Virtual technology for a virtual surround sound effect, plus direct access to most popular streaming services. It sells for $5,999, with an optional floor stand at $750. This thing is a real party starter, especially with how easily you can change its projector angle for the perfect setup!

So, whether you're looking to elevate your audio experience with Marantz, spin some legendary vinyl on the new Technics SL-1300, or transform any space into a cinematic haven with Leica's Cine Play 1, we've got you covered at Len Wallis Audio. Come experience these cutting-edge technologies for yourself, and let's make your home the ultimate entertainment destination.

From pro to Prophecy

PMC has launched a five-strong speaker series that sits above the acclaimed Prodigy range it launched around 18 months ago and sees the British company take a holistic approach to engineering and design.

'Never has so big a sound been possible from cabinets so compact,' is the promise for this new Prophecy series. The cabinets certainly are among the slimmest I've seen.

While every element of the three floorstanders, single standmount and centre speaker is new, it comes as no surprise to find that they are all transmission-line designs; this has been PMC's way from the beginning. A transmission line takes the rearward output from the bass unit and sends it along an internal path that absorbs all but the lowest of frequencies. This redirected rearward sound is then used to augment the driver's forward-firing output.

This is a configuration PMC has honed to an art over the years, and in the new Prophecy range there are claimed to be huge improvements to the way the sound from the transmission line feeds into the room. The company has also refined its Laminair vent technology to ensure a more efficient energy transfer, resulting in reduced turbulence and lower distortion levels.

All of the drivers here are brand-new designs. Having initially been employed in PMC's professional near and midfield studio monitors, the tweeter is a 27mm soft dome with a chamber behind it. It has an unusual grille that helps to improve the frequency response and is loaded by a dished waveguide to control dispersion and help efficiency.

A 55mm dome midrange driver is used in the two larger three-way floorstanding models and draws heavily from the experience gained by designing the company's professional models. It too uses an elaborate grille design to help performance and is surrounded by an unusually complex flower-shaped waveguide to improve dispersion.

A 12.5cm unit is used both as the mid/bass driver in the two-way models and as the dedicated low-frequency driver in the three-way towers. For its rigidity and self-damping qualities it uses a mica-loaded polypropylene cone. The driver is claimed to be capable of large excursions and low distortion levels.

Connecting them together is PMC's renowned high-order, steep roll-off crossover design, with that steep filter slope aiming to ensure that each driver works within its optimum range and presents a good off-axis response for a wide listening window.

The Prophecy range is available in three finishes — Mediterranean Oak, Natural Walnut or Blackened Walnut — from February. The Prophecy1 two-way bookshelf speakers cost $5,499; the Prophecy5 two-way towers are $8,999; the Prophecy7 three-way towers are $12,499; the Prophecy9 three-way towers are $17,099; and finally, the ProphecyC two-way centre speaker is $4,399 (each).

For more information on PMC and Magico (below), contact Addicted to Audio on (03) 9810 2900 or visit www.addictedtoaudio.com.au

Fund-busting magic

It's time for bank accounts all over Australia to prepare themselves because high-end Californian brand Magico has another set of fund-busting floorstanders to tempt you into bankruptcy. The new S5 loudspeakers slot between the S3 and S7 models of Magico's established, 2023-introduced S Series and retail at $145,000 per pair — a relatively inexpensive sum compared with the $750,000 asking price of the brand's ultra-high-end M7 loudspeakers. The S5 take design inspiration and technology drawn from the flagship M Series, benefitting from some seriously impressive engineering tools.

A Polytec Laser Vibrometer was used to measure the most minute vibration of the cabinet panels and calculate the sound-pressure levels they generate so that Magico engineers could tackle them early in the design process. As a result, the S5's cabinet supposedly adds no coloration to the sound.

Using the Klippel Near-Field Scanner robot gave Magico engineers a complete view of the on- and off-axis response of the speaker, too, allowing them to push ever closer to the theoretical ideal response.

The S5 uses a new curved aluminium design for maximised stiffness and further damping, with an arched front baffle aiming for minimal sonic diffraction. And the internal volume has been increased by a significant 31% compared to the previous S5, enabling bass response to go 5Hz lower (to 20Hz) while maintaining the same sensitivity (88dB).

The S5 employs a three-way, four-driver design comprising a 28mm diamond-coated beryllium tweeter, 15cm midrange driver and twin 25cm bass units. The S5's tweeter is based on the unit found in the M Series and, says Magico, "yields the lowest distortion possible today" courtesy of its neodymium motor. The midrange and bass units use Magico's Nano-Tec cone and titanium voice coils, with the former aiming to achieve unparalleled midrange clarity supported by the lower-end drivers' "awe-inspiring power and depth". The S5's three-way crossover also employs Magico's custom-made resistors and updated coils.

The new Magico S5 are available in a choice of two finish types — 'Softec' and 'High Gloss' — with six curated colour options for each, ranging from black and white to orange and cobalt blue.

9000CDT
9000Q

First in eight years

Integrated stereo amplifiers that deliver both preamplifier and power duties from one box are neat, space efficient and undoubtedly the most popular option when it comes to driving a hi-fi system, but the potential for optimum sound quality still comes from having a separate preamplifier and power amplifier. Audiolab offers one-box integrated amps across its entry-level 6000, mid-range 7000 and flagship 9000 ranges, but now it has decided to expand its top-tier offering with a dedicated preamp and power amp for the first time in years.

The new 9000P is the first Audiolab power amplifier since the 8300XP, which launched in 2016, and is joined by the new 9000Q preamp. Together, they sit above the 9000A integrated amplifier as the range's ultimate amplification solution, and also alongside the 9000CDT CD transport and 9000N streamer.

The 9000Q preamp is the brains of the operation, the 9000P the brawn. Feeding two coaxial, two optical and USB Type B inputs, its DAC circuity is built around ESS's top-range ES9038PRO and includes a newly developed Class A post-DAC active filter that has been carefully implemented to make the most out of the chip. Several discrete regulators supplying power separately to the left and right channels for each stage of the digital-to-analogue conversion process are present to improve efficiency and accuracy, while, compared to the 9000A integrated's DAC stage, a separate transformer winding has been included to further isolate noise from the circuitry.

Those inputs can handle PCM audio up to 32-bit/768kHz, DSD512 and MQA, and are joined by Bluetooth 5.0 (aptX HD and LDAC codecs are supported) for convenient wireless playback, as well as a generous suite of analogue connectivity. On the input side, you get four line-levels (three RCA, one balanced XLR), plus a moving-magnet phono stage that has been further improved over the one inside the 9000A.

As for outputs, a pair of RCAs allow two stereo power amps to be connected in, for example, bridged mono mode. Then you have XLRs, which benefit from an 'XLR Direct' mode that enables a balanced signal path from input to output. A pair of 12V trigger outputs are onboard for automated system control, too, completed by your standard line-level stereo RCA and headphone outputs.

Turning the attention to the front of the machine is an eye-catching 4.3-inch colour screen that displays everything from volume level, input selection and file format details to VU-style meters, and is your gateway to a comprehensive menu system. As well as adjustments for digital upsampling, input sensitivity and balance control are new bass and treble tone controls that, like the volume control, operate in the analogue domain and offer +/-6dB adjustments. However, these controls can be removed entirely from the signal path if preferred.

The power supplies inside both the 9000Q and 9000P benefit from filtering technology, developed from Audiolab's DC Block and DC Block 6 mains optimisation devices and naturally are aimed at removing noise from the mains power.

Audiolab's "best power amp yet," the 9000P is a Class A/B implementation, which isn't surprising considering the company's experience with the design. At its engineering core is a dual-mono circuit topology, with separate power supplies for the left and right channels, and a Complementary Feedback output stage, which works to keep idle current independent of the temperature of the output transistors in the name of excellent thermal stability.

The amplifier delivers 100 watts per channel into eight ohms, although you can take that to 300 watts (into the same load) by bridging two of them together, where each power amp's stereo channels can drive a single mono channel (i.e. each amp can drive one speaker).

The Audiolab 9000Q and 9000P cost $3,499 and $2,599 respectively.

For more information, contact
AV Revolution on (02) 9521 4844 or
visit www.avrevolution.com.au

Bose acquires the McIntosh Group — a positive move?

In November, Bose Corporation announced it was acquiring McIntosh Group, the parent company of luxury audio brands McIntosh, Sonus faber and Sumiko Phono Cartridges and the Fine Sounds distributor. The deal sees Bose take on McIntosh Group ownership from the American private equity firm that acquired the group in 2022, for an undisclosed fee, and expands Bose's consumer audio portfolio by launching it into the high-end audiophile game for the first time.

It's pretty big news in the audio world and is reminiscent, you could say, of Samsung's acquisition of Harman (JBL, Mark Levinson, AKG et al) in 2016. Understandably, people had plenty to say about it on social media, with the majority of comments on a Facebook post I shared on *What Hi-Fi?* pretty negative about the whole thing — 'RIP McIntosh', 'BoseIntosh is born' and the like. 'The world is ending' was the most thespian reaction I saw (and, would you believe, actually appeared more than once). My personal favourite: 'I always wanted a set of Sonus Faber 901s.'

Each to their own, and I do somewhat understand those reactions (well, the milder ones!); people tend to fear a brand identity crisis and/or a potentially negative influence a mass-market audio brand could have on revered hi-fi brands they know and love. It's perhaps only human nature to feel a little cynical about these two very different audio worlds colliding in such a way. After all, Bose isn't exactly adored by the wider audiophile industry, which has long had the jab "No highs, no lows, it must be Bose!". It's completely understandable why some folk would fear the impact the acquisition could have on such iconic brands and products.

However, no one yet knows how this particular chapter for McIntosh Group will play out, so might we please look at the potential positives instead?

Deep pockets and passion

Firstly, McIntosh Group has been owned by investment firms for many years now. Isn't ownership by an audio brand a much better fit? Especially by a company that is naturally passionate about audio — and has been for 60 years — and one that appears to have deep pockets. In the past three years, Bose has reportedly generated an annual revenue between $3bn and $3.2bn. Bose isn't going anywhere; it's established, reputable and likely to be in this for the long game.

I'm confident this ownership will last longer than the previous one (two years!) and that the new owners are far more interested in growing the brands rather than simply turning a quick profit.

The luxury audio market is growing and Bose has seen an opportunity to be a part of that growth. (Either that or it just really wanted its Christmas party to be on that €10 million super yacht McIntosh and Sonus faber kitted out, though if that did transpire it was a well-kept secret!) If it can invest in the MG brands and give them the R&D budget to innovate, happy days — the US electronics and Italian speaker hero brands should continue to thrive.

That jives with comments by Bose CEO Lila Snyder: "We look forward to honouring the heritage of these brands, investing in their future and pushing the boundaries of audio innovation... Together the brands will imagine what's possible in the future of audio — delivering new products, bespoke offerings and unparalleled listening experiences for music lovers around the globe."

In an interview with *CNBC*, Snyder didn't rule out the possibility of Bose producing McIntosh-branded headphones, which is probably the easiest 'new product' to envisage coming out of this tie-up considering Bose's vigour in the headphones space and that glaring gap in McIntosh's prolific product catalogue. McIntosh sound alongside Bose active noise cancelling tech... what's not to like?

Staying in its lane

This acquisition will of course allow Bose unprecedented access to true high-end audio expertise from two of the best brands in the business, and such learnings could trickle down to Bose's premium lifestyle products. That's potentially a great consequence for the more casual audio consumer.

Whether the brand will stay in its premium audio lane and allow the likes of McIntosh and Sonus faber to remain — and flourish — in their distinctly separate 'luxury' one, is yet to be seen. Fingers crossed.

One of the Facebook comments I read suggested that 'it will be the era of the amps before Bose took over and the amps after', but I can't see Bose muscling in on the brands' established and highly specialist teams where product development and engineering is concerned. And it's hardly going to demand its $300 headphones take up real estate in MG's exclusively kitted-out House of Sound showcasing townhouse in New York, surely?

The Bose press release states that "McIntosh and Sonus faber will maintain its focus on amplifiers, loudspeakers, turntables, and other high-end products," while in that interview Snyder said that McIntosh will continue to manufacture out of its longtime headquarters in Binghamton, New York. So it's not all change (for now).

Automotiv-ation

You only have to read until paragraph four of the Bose press release to get to one of the acquisition's clearest intentions — to capitalise on and enhance McIntosh's burgeoning in-car audio solutions and partnerships. It reads: "The combined forces of Bose and McIntosh Group also opens new opportunities in the automotive sector. By leveraging Bose's 40-plus years of experience in automotive audio, and McIntosh Group's legacy of performance and design, the brands will work together to expand their research and continue to engineer authentic in-car experiences that redefine automotive sound."

Given McIntosh's experience in developing in-car entertainment systems for various Jeep Wagoneer and Grand Cherokee models, and Sonus faber's with the Maserati Grecale, Lamborghini Revuelto and Pagani Huayra, it's easy to understand why Bose would want in on that lucrative luxury car market. Bose already has sound systems for 'small cars, high-performance vehicles, and ultra-luxury automobiles' and automotive partners such as Porsche, Chevrolet, Honda and Mazda.

Despite the two MG brands' super yacht dalliance I mentioned earlier, presumably a Bose-branded dreamboat isn't in the plans!

We can only wait and see what developments will occur after this acquisition, although I imagine it will be a while until we see any collaborative products. Nonetheless, it's an intriguing prospect that I hope will benefit all brands' respective identities.

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Your ears are the issue

FLARE
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LONG LIVE EARS.

Headphone and earplug specialist Flare Audio has launched a new in-ear device that claims to remove ear distortions and consequently make music sound more immersive through headphones and speakers and at gigs. This "world's first" device is called Immerse and has been designed to improve the audio experience of any headphone or speaker regardless of their calibre.

The logic behind this bold claim? Flare Audio's research claims that our ear internals naturally distort sound by at least 20% due to their shell-like shape. Therefore, sound quality decreases inside this shell as it resonates. You are probably familiar with such 'HRTF' (head-related transfer function), which basically refers to how ears receive sound from a sound source; how it naturally disperses when it reaches the head and travels towards the ear canals. Hi-fi brands have created digital filters in their DACs and whatnot to try to overcome this.

Flare Audio's solution, however, happens inside the ear. "The biggest issue isn't in tracks, it's not in speakers, it's in our ears," says Flare co-founder and inventor Davies Roberts. By changing the internal geometry of ear canals by using acoustic reflectors designed to keep sound waves distortion-free as they enter the ears (via Flare's Mirror Image Sound tech), Immerse works to remove the effects created by HRTF.

"Ears have not evolved to listen to music, they have evolved to alert us to threats," says Roberts. "Our natural ear distortions massively affect the sound we hear and unless we address this root cause, sound quality and sonic immersion will never advance. The reason it's taken so long to solve this issue is because our brains constantly process out our ear distortions, which masks this massive loss in detail. It's taken us 17 years of working with sound and investigating the human ear to identify where things were going wrong, and this has led us to develop the technology inside Immerse."

The result is, according to Flare Audio, "the most detailed and immersive sound you can imagine". Intriguing. You will supposedly hear "every element with unbelievable pinpoint accuracy, noticeable to a far higher degree than our ears could ever naturally perceive."

Dave Eringa, a long-time producer and mixer for the Manic Street Preachers and Idlewild, said: "Listen to one minute of your favourite mix with Immerse, then take them out and prepare for your jaw to hit the floor. Immerse is going to be a game changer for the recording industry."

"The difference is as subtle as a flying mallet," said Steev Toth, the tour manager for Kiss, while Flood (aka Mark Ellis), producer of U2, Nine Inch Nails and PJ Harvey, said: "At the age of 64, I've finally heard the true sound of music." And if you wanted Stephen Fry's reaction (because why wouldn't you?), you can see his recorded demo on Flare Audio's website (see below). "Astonishing," he says, and seemingly not with the spot-on sarcasm he reads Snape's lines with for the Harry Potter audiobooks.

The two prototypes available now, in limited quantities before production versions land later this year, are designed for specific scenarios. The Immerse Headphone model is, as you might guess, designed to be worn under over-ear headphones, while the Immerse Stereo prototype is designed to be used in an open sound environment such as a hi-fi room, studio or concert. Both variants cost £129.95 each or can be purchased together for $219.95.

For more information, visit www.flareaudio.com/en-au/products/immerse

Transparent, by design and performance

Musical Fidelity made quite the statement when it re-entered the high-end turntable market in 2023. Indeed, its M8xTT arrived with the impressive technical and aesthetic prowess of the 2002-released M1 model that inspired it. There is, however, no getting around the fact that the deck is, both in terms of size and price, a beast — it weighs almost 32kg and costs $18,000. Enter the M6xTT...

This second modern-era turntable from Musical FIdelity arrives as a more compact and wallet-friendly version, bringing its sibling's engineering DNA and transparent multi-acrylic structure to a more accommodating form and price point.

Like its sibling, the belt-driven M6xTT sports a dual-layer acrylic plinth that naturally isolates the tonearm and bearing assembly from the motor, and sits on four magnetic feet with Teflon spacers for stability and resonance control.

Moving our eyes upwards we get to a 6.6kg aluminium platter — again, an acrylic construction — damped with thermoplastic elastomer (TPE) for improved stability. The motor, meanwhile, promises stable rotation speed at either 33 or 45rpm courtesy of its "sophisticated" DC-driven AC generator. While the M8xTT switches between the two supported speeds automatically, a push button makes the change here.

As with the M8xTT's 10-inch tonearm, the M6xTT's nine-inch arm sports a conical aluminium tube and acrylic bearing ring and, as you'd expect, is fully adjustable for azimuth and VTA. Two counterweights, also damped with TPE, accommodate various cartridges. The M6xTT is not supplied with one, but it does come with a leather platter mat, a heavy

aluminium record puck, and a semi-balanced 5P-to-RCA interconnect cable that fits to the turntable's DIN connection.

Musical Fidelity's M6xTT can be bought without a tonearm, although the price with it included and pre-mounted is $9,000.

For more information, contact Audio Marketing on (02) 9882 3877 or visit www.audiomarketing.com.au

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Is it a bird? Is it a plane?

No, it's the Super Linton speaker from Wharfedale. The British brand's most popular speaker has received some serious upgrades (though it still can't fly) and are the second Wharfedale Heritage range designs to get the 'Super' status, following the Super Denton that debuted last February. They see the speakers get across-the-board upgrades to their cabinet, crossover and drive units.

You may expect any 'Super' variant to be supersized compared to the original offering, particularly if you're a regular at Maccas, and the Super Linton are indeed bigger than the Linton, albeit moderately so. While they sport the same look as the Linton (which were themselves based on the company's 1970s Linton 3XP model), their cabinet is 4cm taller, meaning the internal cabinet volume (and the damping materials within it) has increased. In the name of reduced resonance, the construction has been enhanced by applying dual fibreboard layers coupled with damping glue, too.

The tweeter, midrange driver and woofer have all been revised. The Super Linton's high-frequency unit inherits many design aspects of the higher-end Dovedale's tweeter. The 25mm dome is formed from a damping-coated fine fabric weave, while the revised short horn profile around it smoothens the response down to the upper-midrange region and a new front plate improves dispersion. It also features a rear chamber that absorbs output from the rear and moves the unit's resonant frequency below the crossover region.

Moving up to the midrange unit, the Linton's 13.5cm Kevlar cone has been carried over to the Super model, although there it is housed in its own cylindrical chamber, where long-hair fibres have also been added to absorb the driver's back wave energy. Last but not least, the 20cm Kevlar-cone woofer is now facilitated by a more powerful motor system that deepens bass extension to 32Hz while offering better control.

Promising to be a shining example of the best of old and new hi-fi combined, the Wharfedale Super Linton cost $5,199.

For more information, contact AV Revolution on (02) 9521 4844 or visit www.avrevolution.com.au

CES
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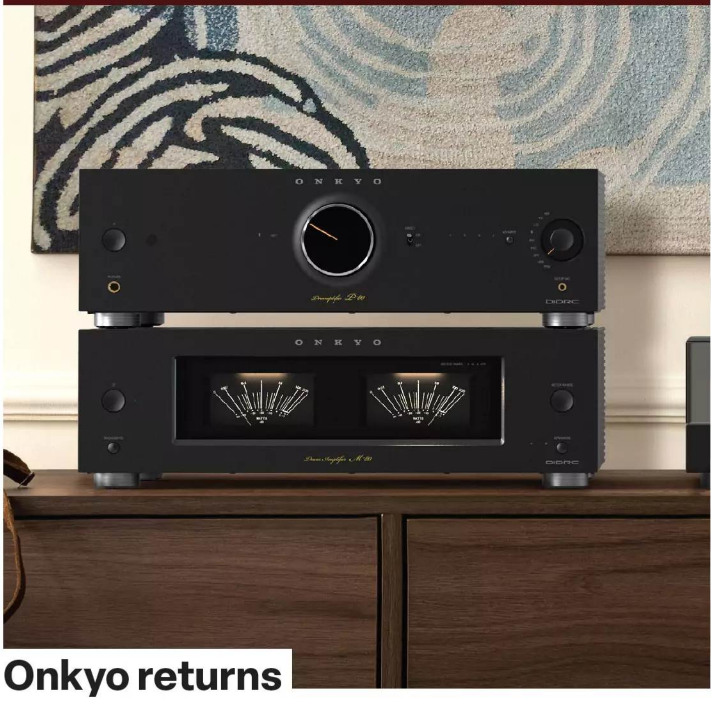
CES 2025: hi-fi highlights from the world's biggest tech show

The new year can mean only one thing: another round of CES. Every January, the great and the good of the technology world descend on Las Vegas for the Consumer Electronics Show. While the spotlight is increasingly on TVs (and robots and AI...), the expo still acts as a launchpad for audio brands to introduce their latest and greatest wares to the general public, an opportunity the likes of Onkyo, Technics and Eversolo grabbed with both hands...



Onkyo returns

Having teased its return just before Christmas, Onkyo is indeed back in the world of hi-fi. It took to the CES stage to launch its new Icon Series of separates, which comprises the P-80 network preamp, M-80 power amp and A-50 streaming amp.

It's a modern reintroduction to the brand, which was renowned for its powerful AV receivers, before filing for bankruptcy in 2022. Its subsequent acquisition by Premium Audio Company (the parent company of Pioneer, Klipsch, Sharp and others) and the teaser of a return in December spell the end of its hiatus, with Onkyo now launching these electronics as well as a more affordable line of powered desktop speakers.

The Icon Series aims to continue Onkyo's legacy of "delivering unparalleled audio experiences for audiophiles" and is part of its "bold new vision for the future". All three Icon components look sleek and modern, with little retro touches (VU meters) that hark back to its hi-fi ▶

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heritage. And all are equipped with Onkyo's patented DIDRC (Dynamic Intermodulation Distortion Reduction Circuitry) technology, which aims to reduce noise in the higher frequencies and improve the reproduction of audio signals for greater sonic authenticity.

Let's get into each product in detail, starting with the Icon P-80 network preamp. At its heart is a new premium stereo DAC (the AK4452) capable of 32-bit/768kHz playback, while streaming features include AirPlay 2, Chromecast, Bluetooth and wi-fi. You also get access to a wide range of streaming services and internet radio, including Tidal Connect, Spotify Connect and — in what is its first official mention — the upcoming Qobuz Connect feature. The P-80 is Roon Ready and features Dirac Live Room Correction, with music playback, source selection and more possible with the Onkyo Controller app.

Connectivity highlights include an HDMI ARC input and a phono stage that can handle MM and MC cartridges, but further specs and connections are, at the time of writing, still pending.

Partnering the P-80 is the Icon M-80 power amp, which houses a symmetrical Class A/B amplifier to deliver a claimed 150 watts per channel at eight ohms (or 200W at four ohms). Along with the DIDRC tech, which aims to reduce high-frequency noise in both the DAC filter section and phono stage, the M-80 features a high current drive with low distortion and a custom "high current power supply to provide dynamic full-range sound". The P-80 and M-80 feature fan-less designs for quieter operation and extruded aluminium heat sinks that reduce vibration.

As you might expect, the Icon A-50 network amp effectively combines the key features of the network preamp and power amp into one tidy integrated unit. You get all the versatile streaming features of the P-80, along with HDMI ARC, a phono stage (MM/MC) and Dirac Live Room Correction. It's Roon Ready and can be controlled by the Onkyo Controller app.

Inside the A-50 you get the same stereo DAC as the P-80 and the same DIDRC circuitry and fan-less, heatsink design as the rest of the Icon series. It is powered by Class A/B amplification, with 140 watts per channel into eight ohms (or 180W into four ohms) — so it's a little less powerful than the dedicated power amp. All of which, says Onkyo, lays "a solid foundation for superior sound."

Australian pricing is yet to be confirmed, but to give you some idea the Icon P-80 and Icon M-80 will cost US$1,999 each, while the Icon A-50 will cost US$1,499.

Technics
Technics
Technics

Diamond-anniversary earbuds

Technics kicked off its 60th-anniversary celebrations at CES by launching a fresh pair of flagship earbuds, the EAH-AZ100.

While the Japanese hi-fi brand is naturally best known for inventing the direct-drive turntable system and designing its hugely popular SL-1200 DJ decks, not to mention various premium hi-fi separates, it has also been riding the true wireless earbuds trend in recent years. For its diamond anniversary this year, Technics is hoping to make its biggest mark on the market yet with the new EAH-AZ100. Despite its fresh reveal, my colleagues at *What Hi-Fi?* have already tested, and been impressed by, them: "With a Bose-bothering ANC performance and a Sony-bothering sound performance, the Technics EAH-AZ100 has emerged as a true contender in the ultra-competitive wireless earbuds field," to quote the review verdict.

The EAH-AZ100 introduce comprehensive updates on Technics' previous top-tier in-ears, the EAH-AZ80. They have been redesigned to offer a smaller, more lightweight shape that supposedly fits better in your ears, offering five ear tip sizes including a new 'ML' option. Active noise cancellation (ANC) has been improved, and there's a new Adaptive ANC feature which adjusts the level according to their surroundings for "the best experience at any time and in any situation".

The AZ100 also come equipped with a new 'Voice Focus AI' feature that combines an AI noise-reduction chip with exclusive tuning and three microphones in each earbud, thus aiming to eliminate background noise to focus solely on the clarity of the caller's voice.

On the sound side, the company's Magnetic Fluid Driver technology promises to deliver low distortion alongside richer bass response and natural, airy high-frequency sound thanks to the 10mm driver's 'ultra-thin free edge' and aluminium diaphragm.

The battery life for the new buds has been extended, too, with the AZ100 teasing 10 hours of life on a single charge, extending to 28 hours in total with the charging case and ANC turned on. That's up from the seven hours and 25 hours respectively offered by the AZ80.

Other key features include the return of industry-first three-way Bluetooth multipoint (with greater customisation), Dolby Atmos spatial audio capabilities with dynamic head tracking, and support for the higher-quality LDAC codec and audio-sharing Auracast tech.

The AZ100 earbuds are available now in black or silver finishes, priced at $499. They squarely challenge the established class leaders from Apple, Bose and Sony in this highly competitive market, so Technics has been savvy in keeping the price consistent from the previous flagship AZ80 earbuds from 2023 while offering significant improvements across the board. And it seems to have paid off.

TIDAL
Tunnel Vision
Kodak Black
Tunnel Vision
WAV 44.1 kHz | 2 ch | 1.41 Mbps | 16 bit
PCM 44.1 kHz
00:00
00:00
PUSH
VOLUME
ever solo
DMP-A6 Gen 2

Hi-fi hit gets an upgrade

Every so often a new brand pops up that leaves the industry both surprised and excited about the trajectory of certain hi-fi products. WiiM is one recent example, a US-based company that delivers capable-sounding and easy-to-use ultra-budget music streamers. Then, in the past year or so, Chinese-based Eversolo came onto the scene with its DMP-A6 music streamer/DAC/preamp, which has received just as much acclaim from hi-fi reviewers for its slick design and an excellent interface and control app that put music management and user-friendliness front and centre. It offered a fresh outlook on a niche hi-fi category, and its follow-up sibling, the DMP-A8, went on to win a 'Best Streamer' EISA 2024-2025 award for the company's forward-thinking efforts.

Eversolo is now looking to keep the buzz alive with a successor to the DMP-A6. The suitably named DMP-A6 Gen 2 brings several upgrades to the table, including an enhanced linear power supply that Eversolo claims reduces noise levels to below 40uV and provides a "purer and more stable" power source for the circuitry.

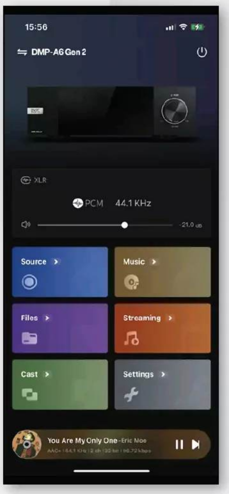
Expanding the unit's connectivity this time round is an HDMI ARC socket and Trigger-out functionality for greater compatibility with home cinema systems. ARC allows TV audio to be transmitted directly while Trigger means the unit can automatically power on/off with other devices. Those new additions join the existing optical, coaxial and USB-C inputs; optical, coaxial, RCA and XLR outputs; and a full suite of streaming skills that includes Chromecast, Tidal Connect, Roon Ready certification and internet radio. It could well be the most well-equipped hi-fi streamer out there.

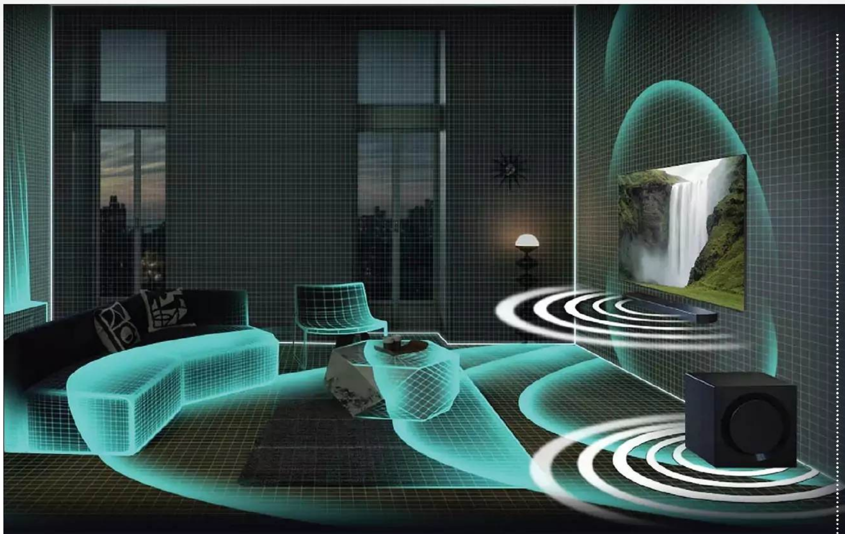
New WOL (Wake-on-LAN) functionality allows you to wake up the streamer through the app, without manual operation, too.

The same slick and responsive six-inch touchscreen, which is essentially a customised version of the Android operating system and which works a treat, has been tuned for improved colour accuracy. And while the same ARM Cortex-A55 processor and two ES9038Q2M DAC chips appear once more, for the audio interface Eversolo has used a "significantly upgraded" XMOS chip that can decode native DSD512 and PCM 32-bit/768kHz.

The 'EOS audio engine' (Eversolo's proprietary sampling rate audio engine) is handy, too, as it effectively allows the DMP-A6 to output the original sampling rate from music services by bypassing any Android-based audio restrictions, meaning you can, for example, download the Apple Music Android app and stream its lossless hi-res catalogue without Apple's famously closed ecosystem being a barrier.

Like its predecessor, the new DMP-A6 even has 32GB of internal storage for storing albums; you can also install an SSD card to expand that by up to 4TB.





Atmos rival is go

After years of speculation and rumours, Samsung and Google's co-developed answer to Dolby Atmos will officially launch this year. Initially rumoured in 2020, revealed to a greater extent in 2023 and expected to launch in 2024 (which obviously didn't happen), the long-awaited, open-source, royalty-free alternative to Dolby's licensed immersive sound format is finally set to arrive within months.

Previously referred to as Project Caviar and IAMF (Immersive Audio Model and Formats) but now titled Eclipsa Audio, the immersive audio format completes the Dolby-busting duo by joining HDR10+ to rival Dolby Vision in addition to Atmos.

The format will reportedly be available on all Samsung 2025 TVs, including the entry-level LCD models and the premium Neo QLED, QD-OLED, and 8K sets. Meanwhile, Google has revealed that YouTube will be the first platform to gain support for the format, allowing users to upload videos with Eclipsa Audio. However, if viewers want to experience their favourite content creator's videos with the immersive audio format enabled, they will need a 2025 Samsung TV to do so.

OK so both software and hardware support for Samsung and Google's new audiovisual proposition is limited as of now, but it's early days and more TVs, soundbars and streaming services will surely pick up support for the audio format in the future. It's certainly a space I'll be watching with interest.

D-1
D/A CONVERTER
POWER
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INPUT SELECTOR

Soulnote D-1N

DAC

- Fabulous sound quality
- Superb hi-res compatibility
- OS and NOS!

- No headphone output or remote control

RRP **$9,000**

Hideki Kato, the Japanese designer of the Soulnote D-1N DAC, is a very clever man. To understand the extent of his cleverness, you must know that there are two completely different types of people — let's call them 'audiophiles' — who purchase external DACs. Those belonging to probably the largest group expect DACs to use the very latest technology and deliver the highest possible performance on the test bench. Only once these parameters are met can the DAC's sound signature or quality become a consideration. Meanwhile, the likely smaller group of audiophiles consider the DAC's sonic performance the single most important criterion; they care little for the tech inside the box or the measurements made by "some tech-head".

This second, smaller group of audiophiles consider that DACs using 'NOS' technology sound superior to those that use any other technology. NOS — at least as it pertains to DACs — means 'No Over Sampling'. (Rather confusingly, audiophiles who prefer old-fashioned valve amplifiers to modern solid-state amplifiers use the same abbreviation to mean 'New Old Stock', meaning a valve made 30 or 40 years ago but has never been used. They believe NOS valves are superior to identical valves manufactured in more recent years.)

So what exactly does NOS mean when it comes to DACs? To understand this, we must go back to when the CD player was invented. In order for the digital technology inherent in CD players to work correctly, an integrated circuit called an analogue-to-digital converter (ADC) sampled the level of an analogue signal 44,100 times every second, with the level of a sample being stored in the digital domain using a 16-bit word. To convert this digital signal back into an audio signal, a digital-to-analogue converter (yes, a DAC) converted each of these 44,100 measurements back into an audio signal. This meant the 'recording' sampling rate was identical to the 'playback' sampling rate.

The problem with this process was that the high-speed circuitry used to make the digital version of the analogue waveform created lots of unwanted signals and noise in the ultrasonic range (above 20kHz). Therefore, for the process to work correctly, manufacturers had to filter out this ultrasonic noise by blocking frequencies above 20kHz, which was achieved using what is known as a low-pass filter (LPF). These LPFs were very complex and expensive to build, hence why early CD players were very expensive. In a bid to reach the wider consumer market — not just audiophiles — manufacturers realised that if they took *two* samples of the original 44,100 samples when they were decoding the recorded digital signal, resulting in 88,200 samples, they could dramatically reduce the cost of the 20kHz low-pass filter and thus the recommended retail price of CD players. This process was fittingly called ‘oversampling’.

As digital technology matured and the price of DACs naturally came down, manufacturers realised that the various advantages of oversampling — not only simplified filter design but also reduced noise in the audio band (there are many more too complex to delve into in this review) — could be enhanced by taking even more samples of the original signal. Therefore, 2x oversampling was overtaken by 4x sampling, and so on.

Of course, the original ‘CD quality’ 16-bit/44.1kHz standard is now very ancient, with the current standard (at least for pulse code modulation, or PCM) being 32-bit/768kHz — but the same oversampling technology is still found inside even the most modern DACs.

If you have followed all this (and I hope you have!), you will now be able to understand why Soulnote’s Kato-san has been so clever: his D-1N DAC has not one but *two* operating modes. In one mode it acts as an ultramodern oversampling DAC (using a Sabre ES9038PRO chip that handles up to 32-bit/768kHz PCM, DSD256 via DoP and native DSD1024); in the other mode it acts as a NOS DAC, processing digital data without oversampling. (ESS Technology Incorporated, based in Fremont, California, claims: “the ES9038PRO Flagship HyperStream II 8-channel audio DAC is the world’s highest performance 32-bit solution designed for audiophile and studio equipment applications such as SACD players, Blu-ray players, digital preamplifiers, studio consoles and digital audio workstations.”)

THE EQUIPMENT

The D-1N’s build quality is superb, though I would expect nothing less from a component manufactured in Japan by the same people who used to build equipment for Marantz (see the ‘Soulnote Backgrounder’ on the following page).

The fluted front panel, available in platinum/silver or black, has a power switch neatly integrated into one of the flutes, with a red power-on LED inserted into the one above the power switch.

On that panel’s top left are four LEDs, one of which will light up if the incoming digital signal is DSD data — 22.6M, 11.2M, 5.6M or 2.8M.

The row of LEDs across the panel’s centre shows the frequency of incoming PCM digital signals, though only for signals between 44.1kHz and 768kHz; if the data rate is lower, only a single LED labelled ‘Other’ will illuminate!

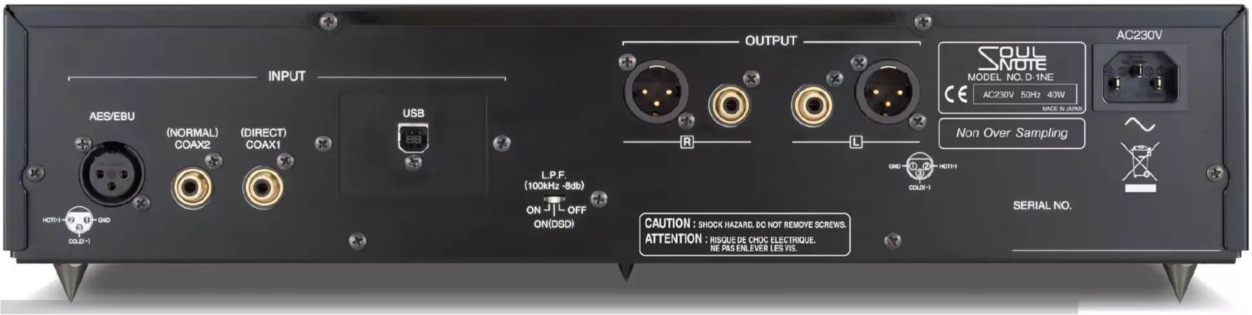
To the right of these PCM LED indicators are four LEDs that display the ‘Lock Range’, selected by the user by pressing the button immediately below. Soulnote’s manual says of this feature: “The lock range is narrowest at [1] and progressively widens as the number increases to [2], [3], and [4]. Normally, the narrower the lock range is, the less there is of jitter, which in turn translates into higher sound quality. However, depending on the clock accuracy of the transmitting device, the sound may momentarily skip when beyond the lock range. In such a case, set the lock range to a wider setting.”

Build quality is superb… manufactured in Japan by the same people who used to build equipment for Marantz

Rather annoyingly, the ‘Lock Range’ button is also used to select the D-1N’s NOS mode (when in this mode, all of the unit’s LEDs are inactive — or “unlit,” as it’s worded in the manual). Providing a dedicated button for the NOS mode would have made it much easier to A-B the sonic differences between it and the OS mode.

The remaining four LEDs to the right of the front panel indicate which of the four available inputs is active — USB, Coax1, Coax2 or AES/EBU. Coax1 is a ‘Normal’ 75-ohm coaxial digital input with a coupling capacitor, while Coax2 (Soulnote calls it ‘Direct’) omits the usual coupling capacitor and isn’t guaranteed to work with non-Soulnote signal sources.

If you plan on using the D-1N’s USB input, you’ll be pleased to hear that, whereas USB is generally transferred asynchronously, Soulnote uses the “Bulk



D-1
D/A CONVERTER
22.6M 11.2M 5.6M 2.8M
768K 705.6K 384K 352.8K 192K 176.4K 96K 88.2K 48K 44.1K OTHER
1 2 3 4
USB COAX1 COAX2 AES/EBU
POWER
LOCK RANGE SELECTOR
INPUT SELECTOR
SOULNOTE

PET" transfer method developed by Interface Corporation which enables the ability to control transmission data volume. Soulnote says this "results in reduced data processing loads for music server computers and DACs, resulting in improved sound quality during playback." To use Bulk PET you need to install dedicated drivers on your music server, which can be downloaded from Soulnote's website (again, see the 'Backgrounder' overpage).

The rear panel sports the usual complement of input terminals you would expect given the options provided on the front-panel switches, plus both balanced (XLR) and unbalanced (RCA) analogue outputs. Also present is a switch that enables and disables an analogue low-pass filter with a cut-off frequency at 100kHz (–8dB). "If the amplifier to be connected is a Soulnote product, you can enjoy higher quality sound output by turning this switch off," says the company.

> Sonic differentiation between the two modes will depend on the source material it's being fed

I should also note that designer Kato is the odd man out in the realms of high-fidelity audio design, because whereas the majority of high-end brands seek to eliminate vibrations and resonances from their products, Kato actively encourages them, which is why the large A4 sheet of paper that confronts you upon opening the D-1N's shipping carton says: "This unit has a part of the printed circuit board floating for sound quality reasons. Therefore, if you shake the unit you will hear a rattling sound, but it is not an abnormality." You will also find another note on an A4 page that advises: "Do not use any electrical contact cleaner or the like in the AC inlet. Doing so could cause damage to this unit." This advice is likely the result of one of Soulnote's customers doing something extremely foolish. Readers, please note that there is *never* any need to clean AC mains contacts!

LISTENING SESSIONS

Subjectively evaluating the differences in sound quality between the D-1N in its oversampling (OS) mode and its non-oversampling (NOS) mode, which I initially considered the most important aspect of its performance to evaluate, proved to be amazingly difficult — indeed nigh-on impossible! — because the DAC's sound is literally an audible 'moveable feast.' (The dictionary defines this phrase as a religious holiday whose date changes every year.)

It's an apt description because the sonic differentiation between the two modes will depend on the source material (the music) it's being fed, including its bit-rate and sampling rate. Essentially, this means that the same music will not only sound different in each mode but also that the differences will vary depending on whether you're playing 16-bit/44.1kHz or 24-bit/48kHz or 24-bit 196kHz etc.

As a gross generalisation, I would say that the differences get smaller as the word length and sampling rate of the original material get higher. However, where it gets really confusing is that even at 16-bit/44.1kHz, where the differences are greatest, I found that with some recordings I preferred listening in OS mode (usually, but not always, in Lock 1 mode, so there's yet another auditioning variable to factor in!) while others I preferred in NOS operation.

Early in my listening sessions I began to think I could make another gross generalisation: that I preferred the OS mode with orchestral and rock music, and the NOS mode with smaller chamber works and contemporary performers using fairly

SOULNOTE BACKGROUNDER

Soulnote equipment is manufactured by CSR Inc, which is headquartered in Kanagawa, Japan. CSR was founded in 2004 as a result of a management buyout, where former employees of Marantz Japan Inc, under the leadership of Kazuyoshi Takanashi, took over Marantz Japan's wireless communication device business. The new company expanded quickly, adding to its product portfolio data transmission systems, radio communications equipment for Japanese Fire and Rescue Services, karaoke equipment, wireless microphones, amplifiers and music education equipment.

In 2006, CSR Inc released its first Soulnote component, the dc1.0 DAC. In April of that year, it also became the Japanese distributor for Britain's PMC professional and consumer loudspeakers, and in December 2021 also the Japanese distributor for Motorola Solutions.

The design and manufacture of all CSR's Soulnote components are the responsibility of Hideki Kato, who joined the company in 2016, having previously designed audio components for Marantz Japan (and, before that, NEC Japan), where he was instrumental in the development of the legendary A-10 amplifiers.

Originally a division and brand name of CSR Inc, Soulnote was established as a separate corporate entity in 2023 and now has a distinct web address: https://soulnote.link

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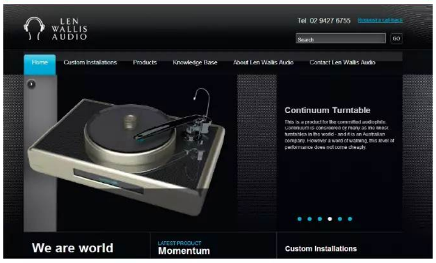
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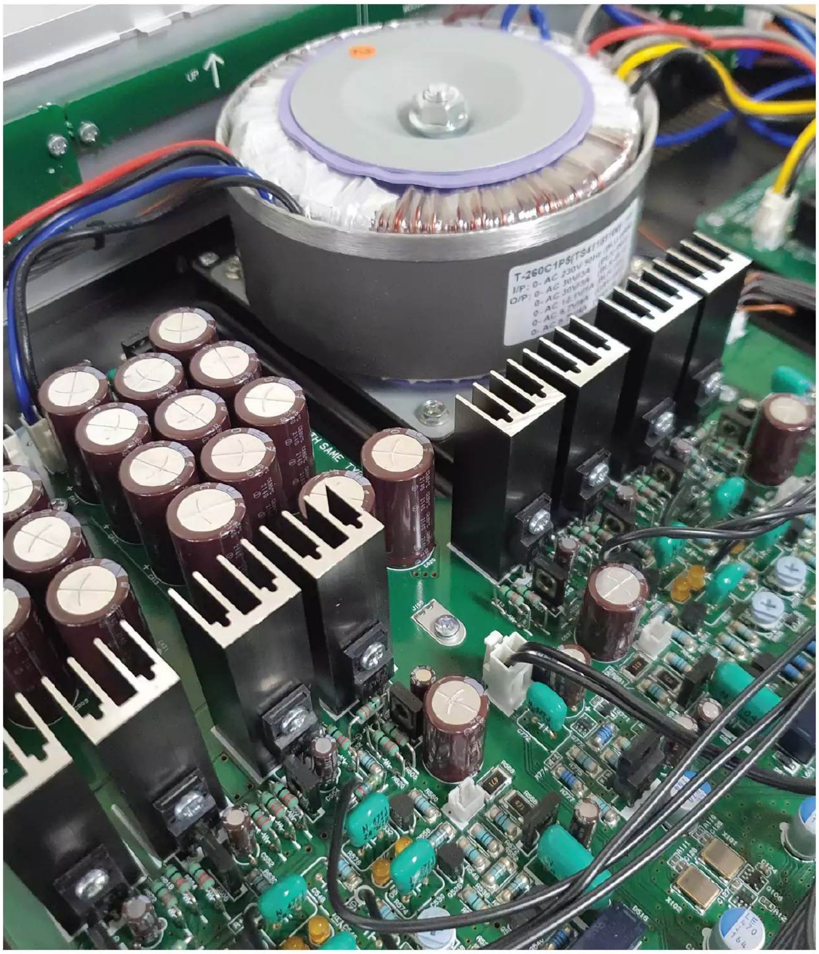

The combination of the ES9038PRO DAC and the discrete non-NFB amplifier achieves vibrant music playback, says Soulnote

sparse musical accompaniment (singer/songwriters et al). As my auditioning progressed, however, I realised I couldn't because it also depended on decisions made by the engineer responsible for the recording itself. If recorded levels were higher and compression was being employed, I mostly preferred the OS mode; at lower levels and zero compression, I sometimes preferred the NOS mode.

Eventually, I decided it would be much easier to compare the D-1N against my own CD player, and then that player used merely as a transport in combination with another (much more expensive!) DAC I had in for review at the same time. For these comparisons I used only the D-1N's OS mode, not least because the CD player and other DAC both used oversampling.

Indeed, this comparison proved a whole lot easier, particularly as the Soulnote was quieter than both. This is likely one of the — if not *the* — quietest DACs I have ever heard: I didn't hear any noise at all. Zilch, nada! This meant gorgeous note spacing and background silences as smooth as black velvet. Even in the quietest moments, as Supertramp would have said, you won't hear any noise at all.

Spatial presentation is also superb. Listen to *School* from 'Crime of the Century' (which is how I developed the Supertramp reference, albeit when I was actually listening to 1990's 'The Very Best of Supertramp' compilation), and it's as if you are actually in the schoolyard amidst screaming children. The ping/pong channel effects are incredible, too. I could also admire the incredible bass depth on offer, as well as the realism of the piano and cymbal sounds. The magnificence of the drum sound continues on *The Logical Song,* plus you also get the plaintiveness of the sax and the rich tapestry of the multi-tracked and harmonised vocals, all rendered superbly by the Soulnote.

> This is likely one of the — if not **the** — quietest DACs I have ever heard: I didn't hear any noise at all. Zilch, nada!

You can get an idea of those golden 'silences between the notes' simply by listening to the keyboard intro to *Bloody Well Right*. And to experience the accuracy with which the D-1N delivers vocals, you need go no further than *Give A Little Bit*… at least you can before the engineer got creative!

I could continue offering examples ad infinitum, but it would really just be more of the same — heaping superlatives on the Soulnote's performance across all music genres. It's a superb-sounding DAC that sounds equally good no matter what flavour of PCM you're feeding it, and irrespective of whether you're delivering via coaxial or USB.

CONCLUSION

What Soulnote's designer, Hideki Kato, has achieved with the D-1N is momentous, essentially delivering the best of both worlds in one DAC.

For audiophiles who prefer the sound of non-oversampling DACs, this is the best example of its kind available; for audiophiles who prefer the performance of oversampling DACs, this is certainly among the best oversampling DACs available, irrespective of price. Indeed, if we factor in its retail price, it is probably the best-value DAC around.

Kato-san has obviously never heard of the saying 'you can't have your cake and eat it too', because with the Soulnote D-1N, you can! ***Greg Borrowman***

SPECS & CONTACT

Inputs: USB (Type B), 2x coaxial, AES/EBU
Outputs: XLR, RCA
File support: USB: 32-bit/768kHz PCM, 22.6MHz DSD
Coaxial & AES/EBU: 24-bit/192kHz PCM, 2.8MHz (DSD64 DoP v1.1)
Frequency range: 2Hz to 120kHz (+0/-1dB)
Signal-to-noise ratio (SNR): 110dB
Total harmonic distortion (THD): 0.003%
Power consumption: 40W
Dimensions (HWD): 10.9 x 45.6 x 37.9cm
Weight: 10kg
Warranty: Two years
Distributor: Absolute Hi End
Address: PO Box 370, Ormond, VIC 3204
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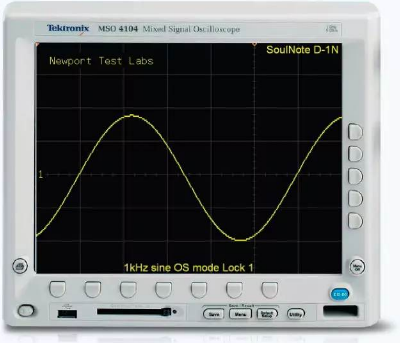
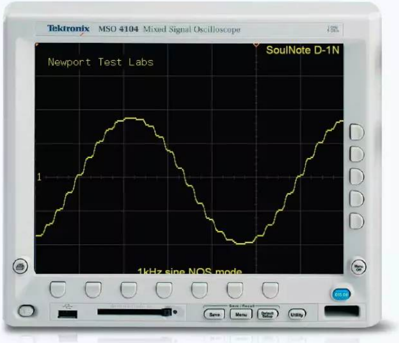
768K 705.6K 384K 352.8K 192K 176.4K 96K 88.2K 48K 44.1K OTHER

Laboratory Test Report

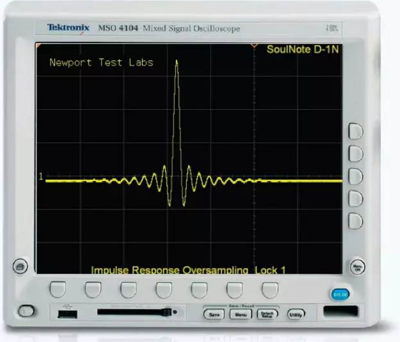
Readers interested in a full technical appraisal of the performance of the Soulnote D-1N DAC should continue on and read the LABORATORY REPORT published on the following pages. Readers should note that the results mentioned in the report, tabulated in performance charts and/or displayed using graphs and/or photographs should be construed as applying only to the specific sample tested.



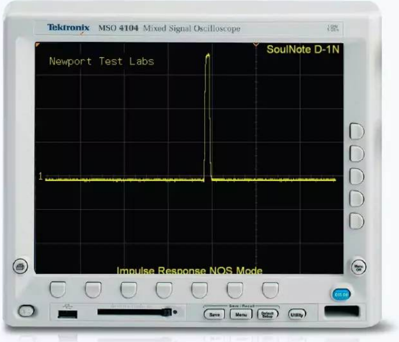
1a



1b



2a



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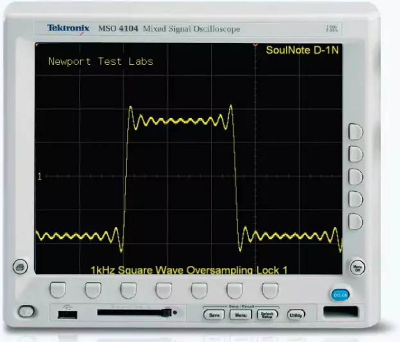
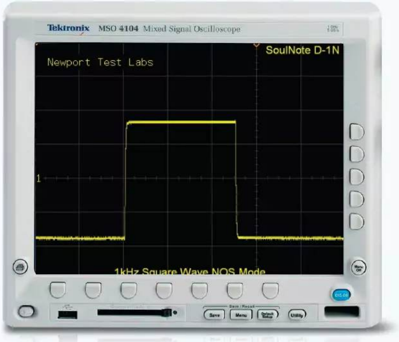


3a



3b

Rather unusually, I'm starting this laboratory test report with images from an oscilloscope, as I believe they best illustrate why audiophiles argue about the different sounds of differently designed digital-to-analogue converters.

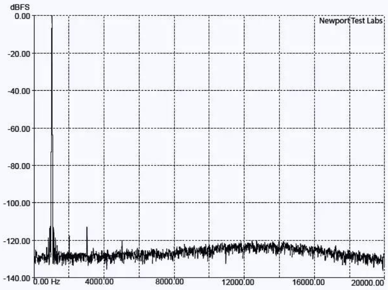
Starting first with a very conventional analogue sine wave, both images 1a and 1b show the same 1kHz wave as reproduced by the D-1N, but the former shows OS conversion and the latter shows NOS conversion. As you can plainly see, 1a (OS) is far closer to an analogue 1kHz sine wave than 1b (NOS).

However (and it's a big 'however'), when it comes to an impulse, the two measurements — 2a (OS) and 2b (NOS) — show that 2b is *far* closer to a standard analogue impulse than 2a.

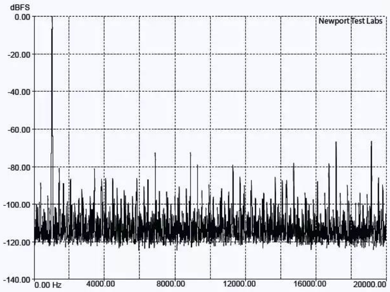
The same is true when we look at that gold standard of audio test and measurement, the square wave. You can see that once again, the NOS conversion (3b) is much more similar to a conventional analogue square wave than the version resulting from oversampling (3a).

When it comes to distortion, *Newport Test Labs* has performed its standard series of measurements using both the OS and NOS modes. Graph 1 shows that OS performance at 0dB is exceptionally good, with only second, third and fifth harmonics above the noise floor, at levels of –118dB (0.00012%), –114dB (0.00019%) and –120dB (0.0010%) respectively. Graph 1a (NOS) is obviously nowhere near as good, but if you look closely you can see that, although many components are visible on the graph, almost all are more than 80dB below the reference level. Percentage-wise, then, you're looking at individual contributions of 0.01%. *Newport Test Labs* measured the summed total THD at 1.004% in NOS mode and 0.002% in OS mode.

Graph 2 (overpage) shows 1kHz



Graph 1. THD vs frequency at 1kHz at 0dB (16-bit/44.1kHz, OS Lock 1)



Graph 1a. THD vs frequency at 1kHz at 0dB (16-bit/ 44.1kHz, NOS)

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distortion with a –20dBFS signal, and you can see that performance is exceptionally good, with *Newport Test Labs* identifying just a single third harmonic distortion component at –120dB (0.00010%). Graph 2a (NOS) is once again messy, but look carefully and you will see that all except for two of the distortions are more than 100dB down (0.001%) — and the two that aren't are at around –90dB down, or 0.00316%. To give you a reference point, I've seen these distortion levels in the output of a conventional oversampling DAC.

At a recorded level of –40dB are no harmonically related distortion components in the noise floor of the Soulnote D-1N when oversampling is used (Graph 3). The noise floor is essentially at –140dB except for the 'chaff' caused by the conversion process as a result of the test signal not being dithered to occupy it. The equivalent measurement with NOS (Graph 3a) exhibits a similar noise floor, albeit with a few more obvious conversion errors. On the whole, overall distortion is still down around –120dB (0.0001%).

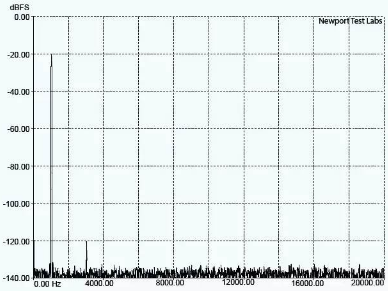
Graphs 4 and 4a are really interesting as they show that conversion errors are almost identical at a recorded level of –60dB, irrespective of the DAC mode employed. This is of particular consequence because of the amount of musical information that is stored at this level (almost no musical information is stored at 0dB, by comparison). Also, the test signal (1kHz sine wave) is not dithered, whereas all musical information *is* dithered precisely to avoid digital-to-analogue conversion errors...

Graphs 5 and 5a, which show a sine wave recorded at –80dB, this time *with* dither, reveal that the OS and NOS techniques deliver an identical outcome.

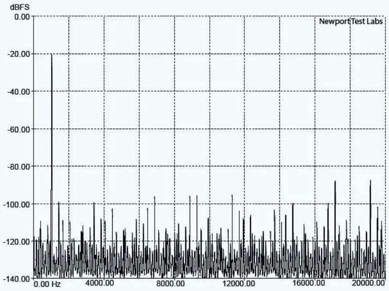
Distortion using a 20kHz test signal is shown in Graphs 6 and 6b to compare the Lock modes of the OS conversion. As you can see, using Lock 1 results in less distortion than using Lock 4.

Intermodulation distortion (twin-tone CCIF) is superbly low when using the Soulnote's OS mode (Graph 7). The two obvious unwanted signals you can see in the NOS mode are reflections of the sampling frequency at 44.1kHz.

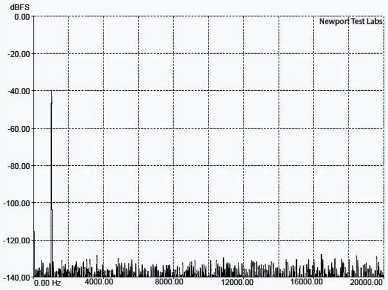
Graph 8 shows the frequency response of the D-1N, in which you can see a small difference between the two modes in the response at high frequencies, with the NOS



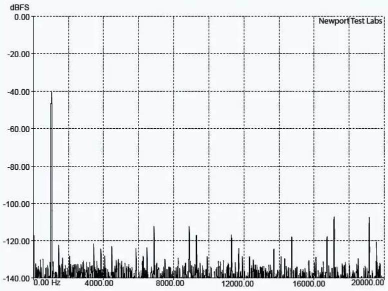
Graph 2. THD vs frequency at 1kHz at -20dB (16-bit/44.1kHz/, OS Lock 1)



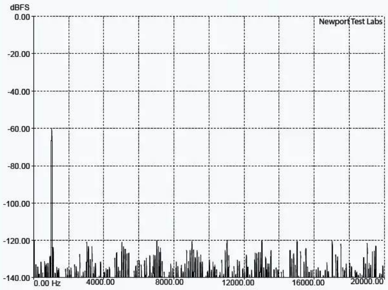
Graph 2a. THD vs frequency at 1kHz at 0dB (16-bit/44.1kHz, NOS)



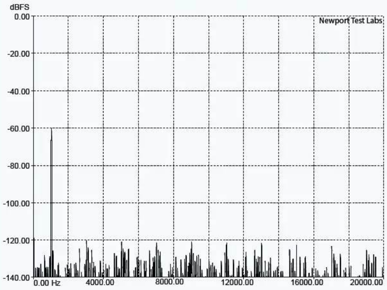
Graph 3. THD vs frequency at 1kHz at -40dB (16-bit/44.1kHz, OS Lock 1)



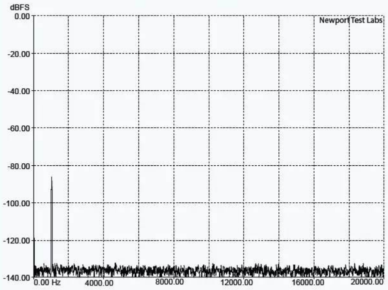
Graph 3a. THD vs frequency at 1kHz at -40dB (16-bit/44.1kHz NOS)



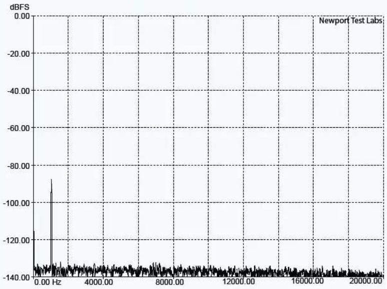
Graph 4. THD vs frequency at 1kHz at -60dB (16-bit/44.1kHz, OS Lock 1)



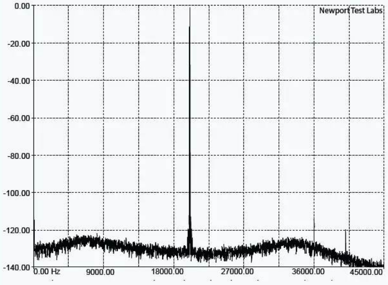
Graph 4a. THD vs frequency at 1kHz at -60dB (16-bit/44.1kHz, NOS)



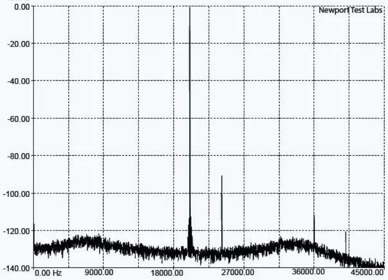
Graph 5. THD vs frequency at 1kHz at -80dB dithered signal (16-bit/44.1kHz, OS Lock 1)



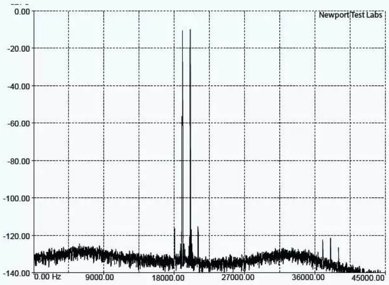
Graph 5a. THD vs frequency at 1kHz at -80dB dithered signal (16-bit/44.1kHz, NOS)



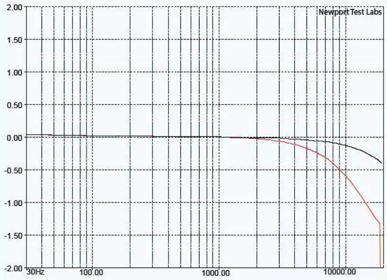
Graph 6a. THD vs frequency at 20kHz at 0dB signal (16-bit/44.1kHz, OS Lock 1)



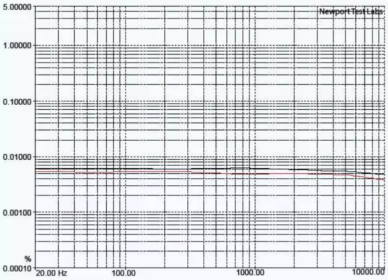
Graph 6b. THD vs frequency at 20kHz at 0dB signal (16-bit/44.1kHz, OS Lock 4)



Graph 7. IMD vs frequency with twin 19/20kHz test signals (16-bit/44.1kHz, OS Lock 1)



Graph 8. Frequency response, OS Lock 1 (black trace) vs NOS (red trace)



Graph 9. THD vs frequency, -1dB and -20dB at 24-bit/48kHz

mode about 1.5dB down at 20kHz, which I doubt would be audible.

Using test signals with a higher sampling rate and word length provided the distortion results shown in Graph 9, for recorded levels of –1dB and –20dB respectively, in OS mode. Again, these are outstandingly good results.

Newport Test Labs performed measurements using 16-bit/44.1kHz and also 24-bit/48kHz test signals, the results of which are displayed in the two tables on the right. All results (except where noted) were obtained using the OS mode Lock 1.

Output voltage was measured at 5.3 volts for the D-1N's balanced outputs, so the unbalanced outputs will deliver around 2.5 volts (for 0dBFS), which is a good result. Balance between the two channels was an excellent 0.032dB, while channel separation was also extraordinarily good at all frequencies — 145dB at low and mid frequencies, and still 132dB at 20kHz.

Newport Test Labs measured overall signal-to-noise ratio at 106dB unweighted and 112dB with A-weighting, which again is excellent — and one of the best results I've seen from a DAC.

De-emphasis error was very low, but it's worth noting that the D-1N includes de-emphasis circuitry. Many modern DACs do not, meaning they will incorrectly decode digital data streams recorded with emphasis, even if there aren't many examples of them around these days (only a few legacy 16-bit/44.1kHz files ripped from CDs recorded in the 80s).

Linearity error was vanishingly small — those 0.00dB results are not typographical errors but mean there was no linearity error at all at these levels in the D-1N's output. It's very rare to see these results!

Tested at 24-bit/48kHz, the Soulnote D-1N improved on every result obtained at 16-bit/ 44.1kHz.

In its OS Lock 1 mode, the D-1N DAC delivered superb, state-of-the-art results across each and every test made by *Newport Test Labs*. **Steve Holding**

Soulnote D-1N DAC — Laboratory Test Results @ 16-bit/44.1kHz

Analogue Section	Result	Units/Comment
Output Voltage (Balanced Outputs)	5.3250 / 5.344	volts (Left Ch/ Right Ch)
Frequency Response	See Graph	dB (20Hz – 20kHz)
Channel Separation	145 / 145 / 132	dB at 16Hz / 1kHz / 20kHz
THD+N	0.002% (os) / 1.004% (nos)	@ 1kHz @ 0dBFS
Channel Balance	0.032	@ 1kHz @ 0dBFS
Channel Phase	0.02 / 0.03 / 2.91	degrees at 16Hz / 1kHz / 20kHz
Group Delay	1.23 / 5.21	degrees (1–20kHz / 20–1kHz)
Signal-to-noise Ratio (No Pre-emph)	106dB / 112dB	dB (unweighted/weighted)
De-Emphasis Error	0.01 / 0.03 / 0.04	at 1kHz / 4kHz / 16kHz
Linearity Error @ –60.00dB / –70.00dB	0.00 / 0.06	dB (Test Signal Not Dithered)
Linearity Error @ –80.59dB / –85.24dB	0.02 / 0.00	dB (Test Signal Not Dithered)
Linearity Error @ –89.46dB / –91.24dB	0.04 / 0.01	dB (Test Signal Not Dithered)
Linearity Error @ –80.70dB / –90.31dB	0.07/ 0.01	dB (Test Signal Dithered)
Power Consumption	N/A / N/T	watts (Standby / On)
Mains Voltage During Testing	235 – 243	(Minimum – Maximum)

Soulnote D-1N Laboratory Test Results @ 24-bit/48kHz

Digital Section	Result	Units/Comment
Out of Band Spurious Components	–110.887dBFS	
Suppression of Imaging Components	–105.565dBFS	
Level Dependent Logarithmic Gain	3.404dB	
Intermodulation Distortion (1)	–104.246	18kHz/20kHz 1:1 Ratio
Intermodulation Distortion (2)	–100.158	41Hz/7993Hz 4:1 Ratio
Low Level Noise Modulation	4.982	Worst Case
Idle Channel Noise	–109.720	CCIR-RMS weighting
Signal-to-Noise Ratio	–109.870	CCIR-RMS weighting
Power Line Products	–133.684	50Hz
Non-Linear Interchannel Crosstalk (a)	–116.735	3kHz (2nd-order ref 17kHz/20kHz)
Non-Linear Interchannel Crosstalk (b)	–115.169	6kHz (3rd-order ref 17kHz/20kHz)
Non-Linear Interchannel Crosstalk (c)	–117.568	10.040kHz (2nd re 40Hz/10kHz)
Non-Linear Interchannel Crosstalk (d)	–110.283	10.080kHz (3rd re 40Hz/10kHz)
Absolute Phase	Non-Inverting	Normal/Inverted

ONKYO
NET
40.0
VOLUME
INPUT
BASS
TREBLE
BALANCE
NETWORK STEREO AMPLIFIER TX-8470

Onkyo TX-8470

Streaming Amplifier

- Packed with features
- Get a lot for your dollar
- Satisfyingly detailed and musical

- Phono performance not as strong
- App can be slow

RRP **$1,799**

With the 'vinyl revival' showing no signs of slowing down and the desire for music streaming convenience continuing on an upward trajectory, plus the ever-present importance for the hi-fi world to offer accessible, low-cost solutions, there is an increasing need for manufacturers to pack a plethora of features into 'proper hi-fi' that is affordable and easy to house. Enter Onkyo and its latest stereo amplifier, the TX-8470.

A jack of all trades, with the intention of being a master of each and every one, the TX-8470 ticks almost every box a contemporary electronics component of its ilk reasonably could. You have the presence of a dedicated phono input for accommodating a turntable, the integration of a full suite of network streaming smarts, and the inclusion of HDMI connectivity (not surprising given Onkyo's expertise in AV receivers) so that the amplifier can work with your TV too, positioning itself as the living room's central hub. And all for the rather modest sum of $1,799. It sounds too good to be true, doesn't it? Let's find out.

EQUIPMENT

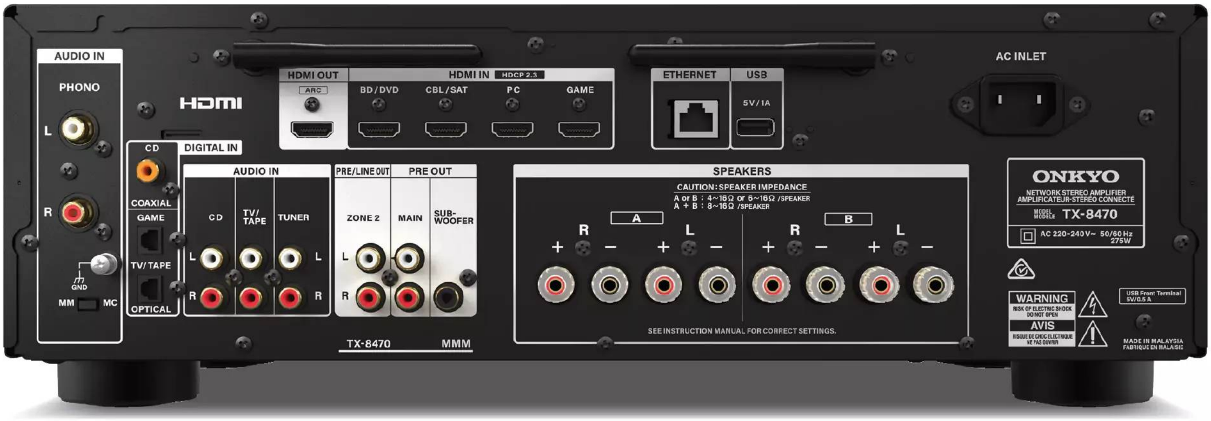
As stereo amplifiers go, the Onkyo TX-8470 is unlikely to win any best-in-show contests. It's a relatively plain slab of black, adorned with a decent smattering of dials and buttons, plus a digital display that appears to span most of the width of the unit. In reality, text and symbols are displayed within only a narrow window of that display area, leaving a fair amount of space in the left-hand section. Longer song titles don't therefore always fit and instead have to scroll along to reveal their identity. Despite the screen not being a fancy new OLED, text is clearly legible even from a distance thanks to the high-contrast green-on-black format.

Turn your attention to the rear of the TX-8470 and it appears Onkyo's penchant for AV receivers has been a clear inspiration as a lot is going on here! A dedicated MM/MC phono input (complete with grounding) is on the left. You're also furnished with three RCA inputs, two digital opticals, a single digital coaxial, one of two USB inputs (the other is on the front panel), an Ethernet port for a wired network connection (recommended for stability), and four HDMI inputs of the 2.1 variety. These support both 4K and 8K video signals and can also handle HDR 10 and gaming-related features such as VRR (Variable Refresh Rate). Naturally, there's also an HDMI ARC output for connection to your TV. Since the Onkyo amp doesn't have the speaker outputs to feed a Dolby Atmos speaker configuration (or any surround speaker setup, for that matter), it's acceptable that this socket is 'only' an ARC rather than the more comprehensive eARC connection.

Other connections include an FM tuner, a pre/line out to facilitate a second zone (read: system), and a main preout for connecting a separate power amplifier if you so wish. A subwoofer output is present and correct too if you want to give your music or movies some extra low-end muscle beyond what your connected stereo speakers are capable of.

Then there is, of course, the aforementioned network streaming capabilities, which are plentiful. The TX-8470 supports the usual suspects — Spotify Connect, Amazon Music, Tidal, Deezer, TuneIn Radio and AirPlay 2. Chromecast is also onboard, as is Roon readiness, while Bluetooth is another box ticked. The Onkyo is also 'Works with Sonos' certified, which doesn't mean you can instantly add the amplifier to a wider Sonos system but *does* mean that if you connect a Sonos Port streamer then you can control the TX-8470 as you would any other Sonos speaker. I can't imagine many TX-8470 owners going down that route considering the Onkyo has built-in music streaming itself, but the option for Sonos app control is there via the Port addition if you want it.

You're offered two pairs of speaker



ONKYO
NET
40.0
VOLUME
NETWORK STEREO AMPLIFIER TX-8470

outputs, which are among the more fiddly I've encountered when it comes to connecting speaker wires. I wouldn't say my exposed speaker wires are particularly large, but the space you're given to insert speaker wire into is pretty small. It took me longer than expected to get everything hooked up, and even then my wires weren't fully inserted how I would have liked.

The DAC section that you will almost certainly use — this is a heavily digital product, after all — is built around AKM's AK4452 32-bit/768kHz DAC, which Onkyo has chosen for its low power consumption and low distortion. Amplification, meanwhile, is of the Class G variety, which, by switching between multiple power supply rails to help maximise efficiency, tends to deliver plenty of output with low distortion levels, without a matching thirst for electricity. Here, it delivers 120W per channel into eight ohms. Also flying the distortion-battling flag is Onkyo's low negative feedback (low-NFB) design.

> Its performance was perfectly listenable — clear, balanced, weighty and reasonably detailed

Despite the presence of multiple buttons and dials on the front panel facilitating playback control, Onkyo supplies a full-size remote control that has logically laid out buttons, so there should be little in the way of a learning process. It's a shame they aren't backlit, but such details cannot be reasonably expected at this price point.

APP & IN USE

As we've come to expect from all networked components, hi-fi or otherwise, the TX-8470 can be controlled almost entirely via an app. This was my first experience of the Onkyo Controller app and it was mostly positive. Compared to some apps I've used from other Japanese brands, it is a little plain-looking, although that minimalist aesthetic and its straightforward functionality could be seen as a benefit for those who don't like 'busy' interfaces and bloatware. It's pretty foolproof to navigate through source inputs, whether you're selecting analogue, digital or internet-based ones. Each music streaming service is presented with its official logo too, to make the journey from device to speakers even easier.

Onkyo has also ensured that adjustment options are simple to find. You're able to, for example, select the highly recommendable Pure Audio mode, which bypasses bass and treble controls and turns the display off to avoid any potential circuit interference. My main gripe with the app is that it could, at times, be slow. And if my phone's display automatically dimmed to save power, when I unlocked it again, the app would take a while to register that I wanted to interact with it.

You can alternatively use the supplied remote to thumb through all the available menus and settings, and the display is bright enough to view from across a room.

I should also add that during my listening sessions, when playing music via my connected JBL Spinner turntable, the amplifier could seemingly randomly switch to a networked-based input and decrease the volume. I couldn't find the cause of this occasional problem.

LISTENING SESSIONS

I started my listening sessions by spinning a few records. First up was Lana Del Rey's *Born To Die* from the album of the same name. Her haunting vocal came through

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prominently, although it felt as though the backing strings were being held back; they weren't moving the song along as I expected and lacked major impact. I played the same song again, this time with the Pure Audio mode enabled and there was a night and day difference. There was more zhuzh to her vocals and the low-end came through more prominently, giving the presentation more weight and impetus. It was a far more enjoyable rendition.

The last word in organisation and dynamics was still missing through the phono input, but considering the amp's $1,799 price point this was hardly surprising. On the whole, its performance was perfectly listenable — clear, balanced, weighty and reasonably detailed — and in line with expectations for phono integration in such a unit. I would recommend any prospective owner who predominantly plays records to audition the Onkyo.

I was much more easily convinced by the TX-8470's talents when I turned my attention to digital streaming. I fed it Nils Frahm's *Says* from Qobuz via AirPlay and was slightly startled by how well the amplifier handled the dynamic shifts late into the track. The long first act of the track was handled delicately and with great poise, the presentation conveying the emotional weight behind the virtuoso's sparse piano playing. As the track builds into its second act, around the five-minute mark, the Onkyo amp was able to track the piece's transition with natural, effortless flow. It delivered the greater dynamic lurches and climactic intensity with barely a struggle, keeping everything organised too as the soundscape became much denser. Its dynamic scale caught me off-guard (in a good way) and I found myself reaching for the remote to turn the volume down a few notches so as not to bother my neighbour.

The TX-8470 is revealing enough to reward owners of high-quality digital files, too. A full-fat 24-bit/192kHz stream of *Sultans Of Swing* on Amazon Music (accessed from within the Onkyo app) sounded as good as I've heard it through any other price-comparable setup. It's coherent, well-driven and detailed from top to bottom — Pick Withers' prominent cymbals have just the right amount of bite while John Illsley's bass anchors and moves agilely alongside the two Knopflers' strings.

CONCLUSION

If your primary music source is a streaming service and you are looking for a neat, well-performing and well-priced component to which you only need add a pair of speakers, there is certainly a good case to be made for making the Onkyo TX-8470 the beating heart of your hi-fi system. Especially if you want something that can be at the centre of both your music and TV needs, such is the TX-8470's fruitfully featured resume.

The phono stage is perhaps the weak link, but it certainly isn't alone there, with phono performance often second-best in similarly priced, do-it-all electronics. It could certainly be a lot worse, and there is, of course, the option to connect an external phono preamplifier down the upgrade track.

Do yourself a favour by listening to the Onkyo in Pure Audio mode and I reckon you'll be surprised at the performance delivered by such a versatile machine at this modest price. ***Max Langridge***

SPECS & CONTACT

Power: 120W per channel (8 ohms, 20-20kHz, 0.08% THD), Class G
Inputs: 4 x HDMI, 3 x RCA, 2 x optical, 2 x USB, coaxial, MM/MC phono, AM/FM tuner, Bluetooth, Ethernet
Streaming: Wi-Fi, Spotify Connect, Amazon Music HD, Tidal, Deezer, TuneIn radio, Pandora, Chromecast, AirPlay 2, Roon Ready
Outputs: HDMI ARC, subwoofer, Zone 2 preout
Dimensions (HWD): 15 x 44 x 33cm

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YAMAHA

Yamaha HA-L7A

Headphone Amplifier

+
- Well-built, distinctive design
- Plenty of connections
- Performs to its price

−
- Big to house
- Sound Field Modes may not appeal to all

RRP **$6,999**

You have to feel for those who live in the idiomatic shadow of others basking in the spotlight — Robin, Hollywood stuntmen, introverted kids of celebrity parents… and the Yamaha HA-L7A headphone amplifier.

When Yamaha released its landmark and extravagantly high-end YH-5000SE headphones just shy of two years ago, it did so to pretty huge fanfare. Kudos to the company's marketing team; hi-fi reviewers and head-fi enthusiasts far and wide wanted a listen. But in the wake of that launch, and sensibly timed I must say, came the Japanese brand's first-ever high-end headphone amplifier, with comparatively modest pageantry. So does it actually deserve just as much limelight?

DESIGN & BUILD

The HA-L7A certainly makes every effort to grab your attention with its oddly shaped chassis. It's one of the larger headphone

SOUND FIELD MODE
PHONES
4.4 BALANCED
XLR
YAMAHA

amps you will come across, due not so much to the cuboidal 'main' chassis where you'll find the buttons and display but to the two cylindrical protrusions that house the toroidal transformers and together are shaped a bit like a perfect peanut shell or the outline of an '8'.

The two are 'separated' so that the high currents and resulting magnetic fields of the power supply don't interfere with the sensitive audio circuit and hinder performance. But unlike a sidecar from a scooter, this figure-of-eight bulge is not detachable, despite an apparent seam looking as though it connects the two. That's just as well really as it is, of course, an integral part of the architectural design without which the amplifier wouldn't work!

The rear-panel connections run the length of the whole chassis anyway, with the power socket logically at that transformer end too. Generously, Yamaha offers both XLR outputs and pre/line outputs (with the necessary switch), in addition to RCA, coaxial, optical and asynchronous USB Type-B inputs, fed by an ESS 9038Pro DAC chip that supports files up to 32-bit/384kHz PCM and DSD 11.2MHz. (Note that the coaxial and optical connections are 'limited' to 24-bit/192kHz and 96kHz passthrough respectively and that owners of Windows computers who wish to connect via the USB input will need to download Yamaha's Steinberg USB driver). A USB-A socket is also present and correct, albeit only as a way to bring service updates onboard.

The most important outputs — the XLR, 4.4mm and 6.3mm headphone sockets — bring me around to the opposite side of the unit, where there is plenty to poke.

While there will undoubtedly be folk who wish to slot the HA-L7A into their hi-fi rack to play their turntable, CD player and/or streamer through it and their chosen headphones, and largely control playback through the amplifier's supplied (and nice enough, by the way) remote control, I imagine many units will end up on a desktop, predominantly handled by their owner on a daily basis. And for that setup scenario, the HA-L7A is pleasingly one of the more tactile and intuitive examples of its kind.

You can position the amplifier in one of two logical ways — either so that the headphone sockets are front-facing, where the connectivity panel will be rear-facing and the on-unit dial placement will lend itself to the amplifier being on your left-hand side; or so that the sockets face the side you're seated on, which lends itself to the amplifier being on your right-hand side. Perhaps your choice of position would depend on whether you are left- or right-handed, or simply where you have the most room on your desk. Either way, the display,

> **Unlike a sidecar from a scooter, this figure-of-eight bulge is not detachable, despite an apparent seam**

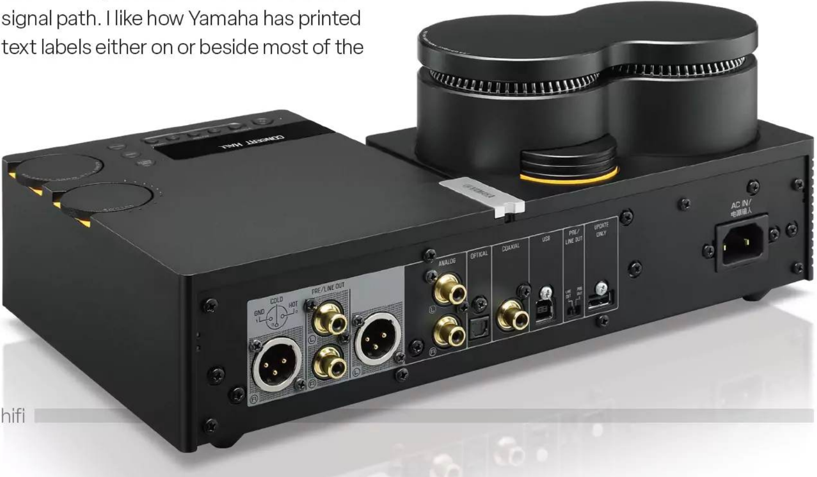
The welcome yellow accents are a nice touch and match those on the connectors of the YH-5000SE headphones

dials and buttons sit on the top panel just above the connections, and while that design hardly makes them easy to see or reach for if the amp is sat within a rack with short shelf spacing, they are at least easy to read and use when the amp is placed on either side of you.

That OLED display is much closer to 'functional' than 'flashy' on the beauty spectrum, as are those so-so navigation and mode selection buttons that run below it and to its right. The navigational handful (menu, left, select etc) launch and logically steer the menu, which is a gateway to choosing your preferred DAC filter (of eight), DAC precision 'level', headphone and output gain mode, upper volume limit, left/right channel balance, and so forth. The 'status' button is worth mentioning as it lets you choose which information the screen displays — incoming signal information and current volume (in dB), current input and output selection, or current Sound Field mode (I'll get to that shortly). Again, Yamaha is gunning for a practical, functional design here, right down to the finer details.

Meanwhile, the three side buttons are shortcuts for switching between outputs and inputs, and activating the commonplace, performance-first Pure Direct mode, which for the uninitiated bypasses any unnecessary processing and circuitry in favour of the most direct signal path. I like how Yamaha has printed text labels either on or beside most of the buttons. It may look a little industrial, but in my mind it's much better than having to remember various colour codes or ambiguous symbol markings.

The two flat, inset dials to the right of those mode buttons are much more like it: more akin to the quality you'd expect from an electronics component of this price. Their circular 'edges' ever so slightly overhang the chassis, making them easier to turn, and I have to say that I'm a sucker for the little yellow-coloured indents that, like the famous red umbrella in the otherwise black-and-white cityscape painting, satisfyingly break up all that black.



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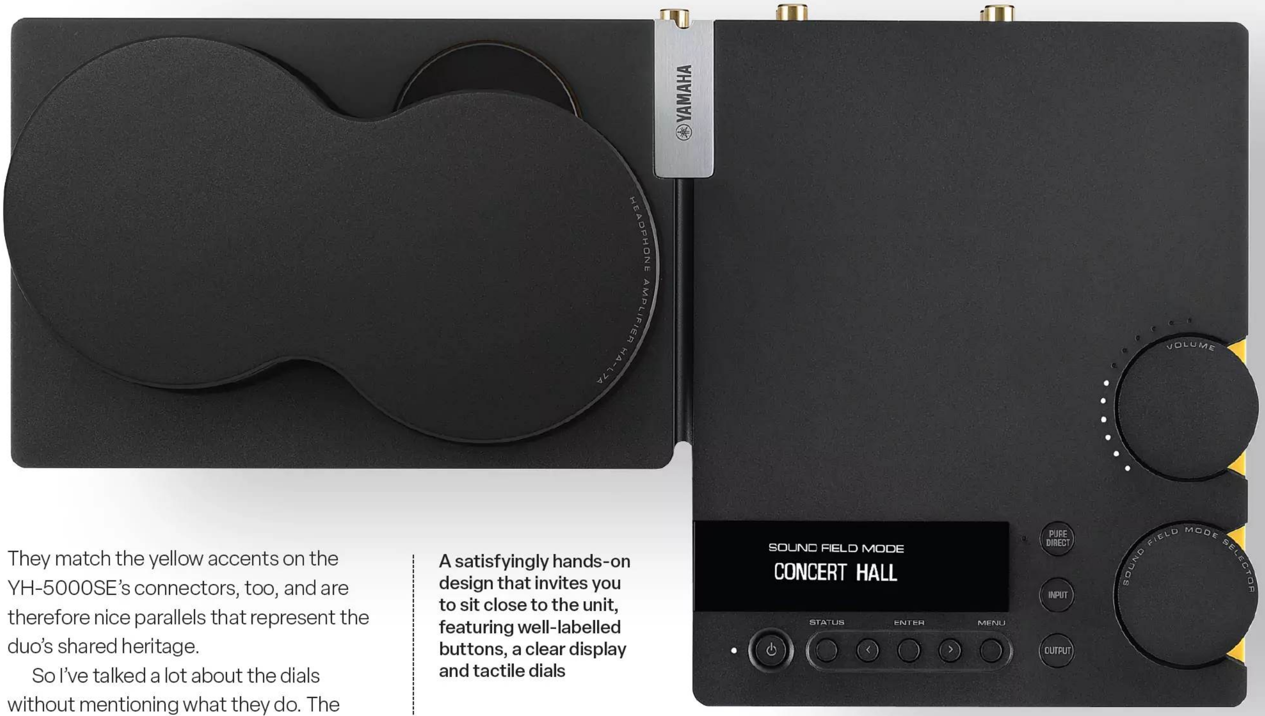


A satisfyingly hands-on design that invites you to sit close to the unit, featuring well-labelled buttons, a clear display and tactile dials

They match the yellow accents on the YH-5000SE's connectors, too, and are therefore nice parallels that represent the duo's shared heritage.

So I've talked a lot about the dials without mentioning what they do. The first is — you guessed it — a volume dial. And even more attractive than its yellow indent is the ring of LED lights around it that naturally light up to signify volume level. The dial requires being pushed up notches rather than spun, with each notch turning with a defiant, silent click. The dial below it has that same good 'dial feel' and is, less predictably than the volume dial, for cycling through those aforementioned Sound Field modes.

SOUND FIELD OF DREAMS

When I spoke to one of the principal designers of the HA-L7A, Ryota Sato, last year, he said of the project's initiative: "We wanted it to drive all kinds of high-end headphones and bring out the maximum potential of all kinds of content." That second reason is why Yamaha has created and implemented no fewer than seven sound modes on the HA-L7A — Straight, Cinema, Drama, Music Video, Concert Hall, Outdoor Live and BGM ('background music').

PURE DIRECT
SOUND FIELD
INPUT
USB
OPTICAL
COAXIAL
ANALOG
OUTPUT
MENU
ENTER
STATUS
VOLUME
MUTE
YAMAHA
RHA1
VFN4930

These DSP presets have been tuned to create the optimal sound depending on the music or video source being played — something those who are familiar with Yamaha's AV receivers will know the company has dabbled with for some time. The Yamaha team's enthusiasm for this functionality was actually one of the main reasons it decided on a digital rather than purely analogue design.

These simulation modes more or less do what they say on the tin, and effectively too — Cinema opens out the soundstage to create more distance between dialogue and action effects; Drama pushes forward the midrange (voices); and Concert Hall creates a sense of echo and space imitating a large venue. If you (like me) were wondering what BGM does, the user manual describes its intention as: 'This setting is suitable for listening to background music where the sound is localized outside the head, letting you relax and listen to music. [It] uses Yamaha's proprietary high-definition HRTF (Head Related Transfer Function) technology to process the stereo position of the sound outside your head.' I liked this one the least, probably due to its faraway feel and because I was regularly dipping into the HA-L7A over the weeks to, well, listen properly.

I mostly enjoyed Outdoor Live for, as you might expect, live albums (though I did think it worked better for Grateful Dead's 'Sunshine Daydream Veneta' than it did Daft Punk's 'Alive'), and Cinema while I streamed movies from Netflix on a MacBook and spent the afternoon playing exclusively post-rock. But for general music listening, Straight (no sound effects) gets my vote. In fact, after various experiments with Sound Field modes and DAC filters, I enjoyed the final fortnight with the Yamaha unit in the aforementioned Pure Direct state. (Just be aware that you can't browse menus or use any other modes when this mode is in use.)

Ultimately, as with most 'extra' functionality offered by digital products nowadays, some will hail Yamaha's versatile Sound Field offering while others will merely try it on occasion or perhaps even ignore it completely.

LISTENING SESSIONS

It made sense to settle into my listening sessions using the headphones Yamaha envisioned as the HA-L7A's perfect partner — the YH-5000SE. It may not surprise you that these $7,500 babies were the priciest pair I had to hand, although I also swapped in my ol' favourite Grado GS1000 from the Brooklyn brand's top-tier Statement Series. I hadn't spent long in the company of the Yamaha amplifier before I yearned to call in favours to borrow more of my favourite (albeit too expensive to own on a journalist's salary!) headphones; I was, you could say, impressed.

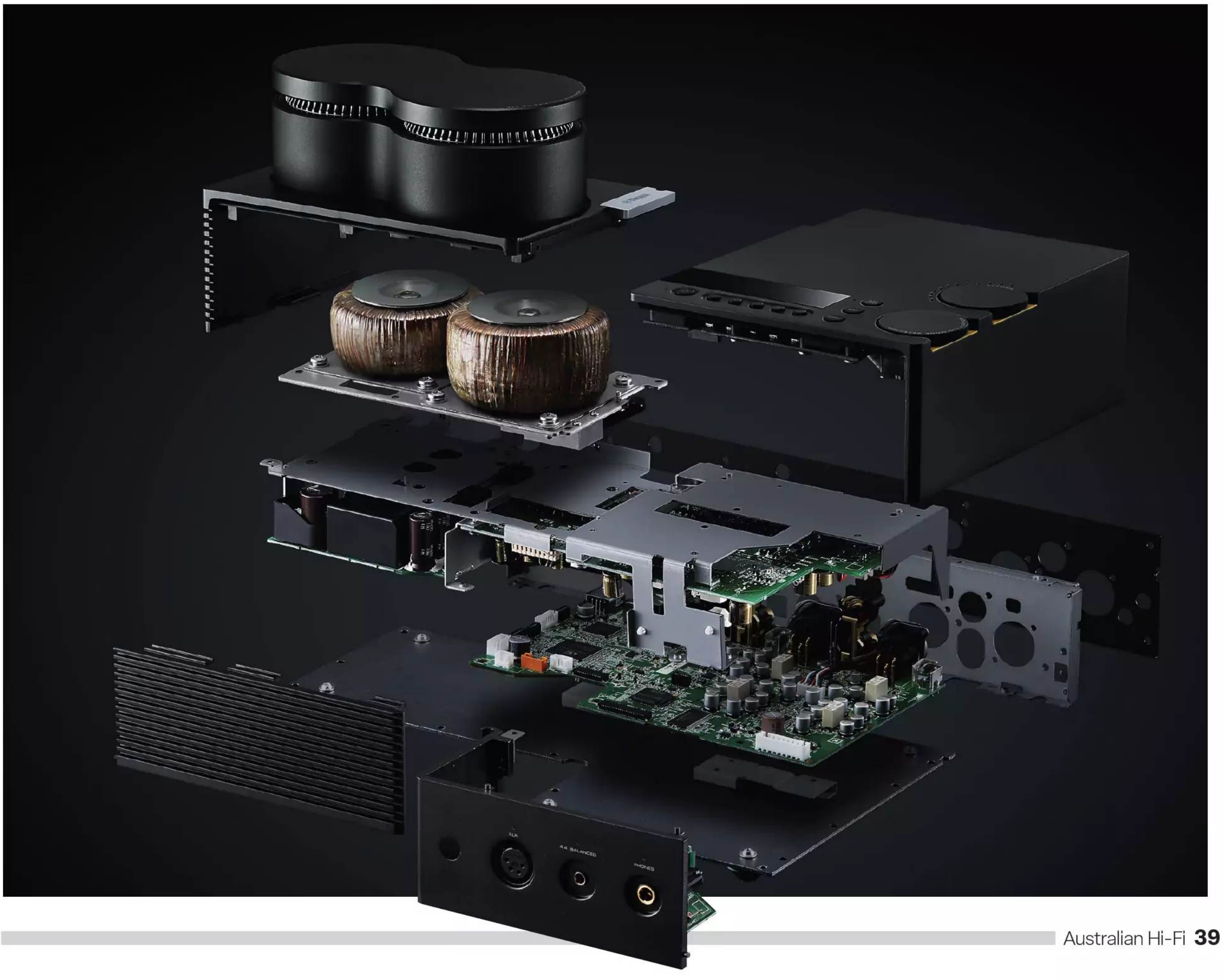
I've heard many a Yamaha hi-fi and home cinema component over the years and most — if not all actually; an exception doesn't spring to mind — share the same sonic traits: weighty and authoritative, spacious and detailed. More often than not there is a notable smoothness to the sound, too. The HA-L7A mostly toes that signature sound, striking me first as big, open and solid and then, only moments after, immaculately clear and articulate. 'Effortless' would be an appropriate single-word summation of the amplifier's rendition of music.

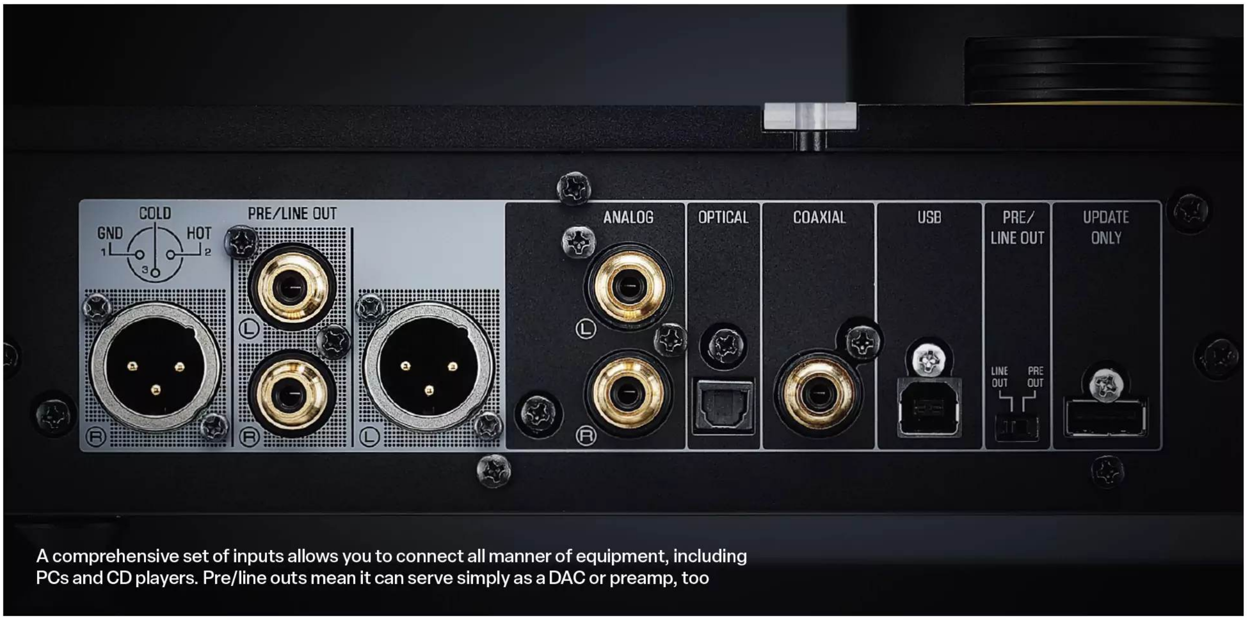
Indeed, it drove the Yamaha and Grado headphones comfortably, filling every corner of their very wide-open soundstages with details that were nicely layered and precisely placed. Tonality was well judged, only slightly leaning towards the richer side of neutrality, and no part of the frequency spectrum seemed anything less than solid and sure of itself. I haven't been faced with many scenarios where I've been able to listen to exceptionally high volume levels comfortably, especially when drivers are mere centimetres from my ears — a moment with Stax headphones was one, a Focal Grand Utopia speaker demo was another — but the Yamaha pairing was up to the job. Even operating for a few hours on such volume (mostly when they weren't on my head; I value my hearing) in a generously heated room, the amplifier didn't run warm.

> **The HA-L7A's delivery isn't short of texture or dynamic expression… it's a confident execution**

My impression of the Yamaha's commanding presence during initial listens inspired a firing up of *You & Me* from Meute, an 11-piece German 'techno marching band' that uniquely fuses beats with brass to put their own spin on techno and house mixes from well-known DJs. As you might envisage from an assemble of such description, their cover of Flume's creative take on the popular Disclosure track is a concoction of melody-setting saxophones, trumpets, trombones and horns above a driving drumbeat (which uses a rototom in there somewhere!). The HA-L7A's delivery isn't short of texture or dynamic expression, nor does it feel limited when it comes to scale and headroom. It can dutifully punch out during the most theatrical displays of brass and percussion, too, and the bells ring out with an apt shrillness that doesn't overshadow the details within them. It's a confident execution, and as true to the material as I believe I've heard.

Over to something a little simpler but no less organic, Matthew and the Atlas's *Many Times*, and the amplifier's midrange



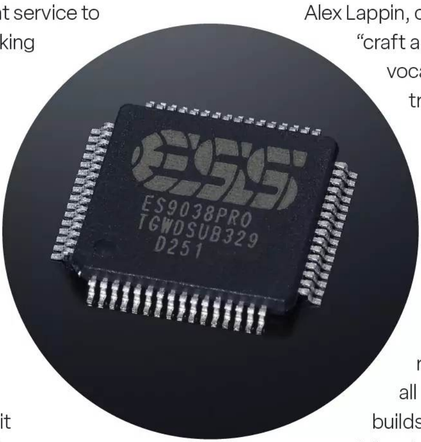


A comprehensive set of inputs allows you to connect all manner of equipment, including PCs and CD players. Pre/line outs mean it can serve simply as a DAC or preamp, too

expression is in the spotlight again. In his career, singer-songwriter Matthew Hegarty has complemented his acoustic gift with a full band backing, shimmering synths, choral arrangements and electric guitar reverb, but this opening track from his latest eponymous album returns to his stripped-back beginnings. “We kept it simple with just a guitar and a vocal,” he said of last year’s release, which was recorded live to tape at Rockfield Studios in the beautiful Welsh countryside, which coincidentally is only some 100 miles away from where I, mid-trip, penned this review. The HA-L7A does great service to his acoustic finger-picking and mellifluous vocal, both very present in the soundstage, with even their subtlest ebbs and flows attentively tracked. The amp’s rendition carries a pleasing warmth that doesn’t sacrifice the rawness of the production, too. The wide window it can offer into productions also struck me during a play of one of my go-to piano pieces, Ólafur Arnalds’ wistful *saman* (it means ‘together’ in Icelandic — beautiful): it laid bare not only the harmonics and mechanical creeks of the keys but also the intimacy and ‘aged’ feel captured by the recording that is vital in keeping listeners under its spell.

Finishing up with folk again, albeit a much rockier kind, I queued up this 2024’s ‘The Fool’, the seventh record John Rossiter has released under the Young Jesus name and one I’m pleased to have spied in more than a couple of music publications’ ‘Best Of 2024’ lists. Heartland rock opener, *Brenda & Diane*, is one of its giddier tracks, and the Yamaha laps up the growing, propulsive drumbeat opener and lurching piano chords. With the beedy single eye of a gossiping parent in the playground, it manages to keep tabs on the syncopated rhythm underneath, too.

Rossiter says that the record’s producer, Alex Lappin, challenged him to “craft a narrative with the vocal delivery” with this track, which is about a guy who reluctantly sits down with “a couple old ladies” who are gambling on the run and turn out to have complex lives that humble him. The result is one that, like all good storytelling, builds to the culmination of the character arc. The Yamaha reads the lines excellently: it gets under every quiver in Rossiter’s delicate vocal delivery and carries his exasperation in the more climactic ones. I switched over to my ‘everyday’ Chord Hugo 2 headphone amp, which performs past its $4,500 price tag and can take on more expensive rivals, and while its natural sense of musical cohesion is hard to beat, the Yamaha has it covered in most respects — scale, space, authority, detail and punch — as you would hope considering the gaping price difference between the two. Whether or not it would be a match for Chord’s excellent, more similarly priced TT2 is a curiosity I hope to one day satisfy, but for now at least it remains an itch to scratch.



The renowned ESS 9038PRO chip applies four-channel conversion to each the left and right sides

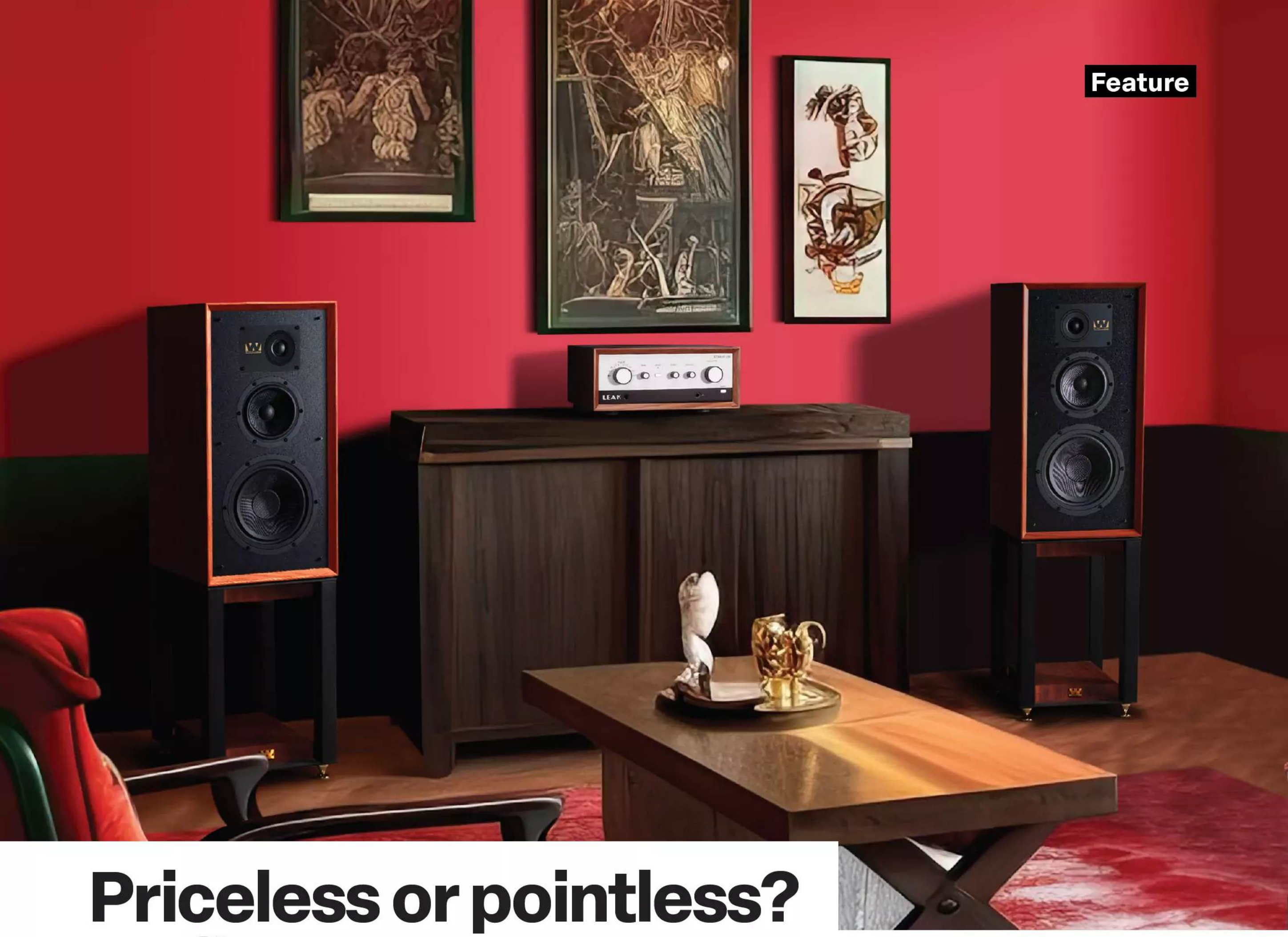
CONCLUSION

The HA-L7A deserves to be seen not simply as an ‘accessory’ to the YH-5000SE but as an amp that will bring out the best in any aspirational pair of headphones. It is, in its own right, a sophisticated performer for a sophisticated head-fi enthusiast and a welcome addition to Yamaha’s high-end audio catalogue. Here’s to hoping the company does more in the head-fi space this year.

SPECS & CONTACT

Price: $6,999
Output: 1,000mW+1,000mW (1kHz, 0.01% THD, 32Ω)
Total harmonic distortion (THD): ≤0.003% (dig in, 1kHz, 300mW, 32Ω)
Signal-to-noise ratio (SNR): >120 dB
Recommended headphone impedance: 32-600Ω
Inputs: RCA, optical, coaxial, USB Type-B
Outputs: XLR, RCA
Dimensions (HWD): 13.3 x 33.3 x 18.9cm
Weight: 5.3kg

Contact: Yamaha Australia
T: 1800 805 413
W: www.au.yamaha.com



Priceless or pointless? Hi-fi engineers weigh in on the value of ‘running-in’

So you’ve just snuck some new hi-fi kit into your house and have wired it up to your system (being careful to hide the empty cardboard boxes, of course). You’ve lined up your favourite album of last year (also a covert household purchase) and are ready and eager to listen to how much better it now sounds compared to yesterday and congratulate yourself on your latest (secret) purchase. But between set-up and performance scrutiny is a process that will undoubtedly irk the impatient but could prevent confusion if the kit doesn’t sound as you remember it from the demo room, or as you’ve read about in the reviews. Yep, I’m talking about ‘running-in’.

You’re probably familiar with the phrase (also referred to as ‘breaking-in’ or ‘burning-in’), if not in relation to hi-fi than perhaps a car. For the unitiated, it essentially refers to an initial period of use whereby the moving parts begin to work and stabilise in their forever environment, during which a last little bit of component shifting could occur.

Just as a car shouldn’t be driven like a hoon in the first miles of its life while the piston rings are settling into the engine’s cylinder wall and the brake pads and discs are adjusting to one other, hi-fi performance shouldn’t, according to popular thought, be taken as gospel until all of the moving parts have bedded in. For this reason “it’s essential to run in quality hi-fi and not to judge it beforehand,” to borrow a reputable engineer’s quote which I stumbled upon recently while trawling through the *What Hi-Fi?* magazine archives from the ‘90s. Indeed, it’s something I have habitually done with every review sample that has come my way over the past decade. When I used to do ‘Supertests’ of several (sometimes as many as 10) products at once, you can imagine how many cables, plug sockets and, in the case of headphones, multi-way splitters were involved in running them all in efficiently!

So what is today’s school of thought on the process? I asked some engineers in the industry for their thoughts on running-in…

The settling of mechanics

“There’s no argument as far as we are concerned,” says Stephen Oakes of Neat Acoustics, and “it’s pretty clear cut” says Cambridge Audio’s engineering team — loudspeakers benefit from being run-in due to their physical and mechanical nature. “Loudspeakers straight out of the box

> “You can hear quite a difference after 30 hours, but some speakers can take over 100 hours to reach their best”

While some parts do continue to improve over months, this much more gradual process may not be "readily discernible"

will certainly sound 'tight' and far from the relaxed performance that is desired," adds Peter Comeau of IAG (Wharfedale, Audiolab, Quad etc). And Oakes affirms that "this is audible and measurable".

Why? Firstly, drive units are made up of moving parts that are stiffer than intended when new and unworked. "The most obvious thing is that speaker bass cones and, to a smaller degree, tweeters move, thus moving air," says Paul Mills of Fyne Audio. "It takes a while for the speaker surround, which is often rubber, and the rear fabric suspension to 'ease up'."

You then have the spider that makes up the majority of the total compliance of a woofer. This, says Oliver Thomas of PMC, "will have various coatings to optimise its mechanical and acoustic properties to meet the design goals, but these coatings set harder than intended when first applied, and will gradually soften to their final state as the parts are flexed and stretched during use. The practical effect of this is that the measured resonant frequency and mechanical damping of a drive unit will shift during the first hours of use, which in turn will alter the drive unit's acoustic behaviour."

Matt Dore and the rest of Cambridge Audio's engineering team explain that the run-in-induced relaxation of the suspension, roll surround and spider "reduces the resonance frequency, giving more bass output and allowing the speaker driver to align properly with the enclosure, and any ports or passive radiators".

During the manufacturing process, materials that make up speaker cones and domes often have internal stresses, too. Comeau offers an example: "Woven fibre or plastic materials are supplied in flat sheet form which is then heat-formed into the required shape and this creates stresses in the material. These mechanical stresses need to be 'relaxed' over a period of use."

This, says Mills, "can cause anything from harshness to a lack of dynamics". But it isn't just the drive unit constituents that need to settle: he explains that crossover components such as capacitors, inductors, resistors and cabling also have pre-stressed characteristics that are eased when a signal passes through them. Incidentally, Mills says this is another reason Fyne Audio cryogenically treats many of its speaker crossovers as this also helps reduce component stresses.

Hours, days or weeks?

So is this an overnight job that can be achieved in the time it takes to defrost a chicken? The frustrating answer is… it depends. (We know, sorry.) I tend to run all review products over a couple of days or nights (sometimes both), and even then it isn't all that uncommon to hear that some might need longer to settle into the sound I expect. So how many background replays of Chris Rea's 137-song 'Blue Guitars' album is it going to take?

"We have seen the resonant frequency lower and the response at the top end of the driver's range smooth out after a few weeks," says Neat's Oakes. "You can hear quite a difference after 30 hours, but some speakers can take over 100 hours to reach their best. It depends on the driver materials and the suspension parameters."

Similarly, PMC's Thomas says that acoustic behaviour will change during the first 50 hours of playback. And the number of hours Fyne's Mills suggests is there or thereabouts too: "Whereas considerable improvements can be seen after 40 hours, it can take 10 times that to fully run in. Larger loudspeakers tend to be the worst offenders, as for starters the cones tend to move less."

Indeed, the speakers that use Fyne's IsoFlare point source driver array (pictured left) offer one example of why running-in time isn't a one-fits-all approach. As they have the tweeter unit in the throat of the mid/bass driver, it takes a lot to keep the acoustic centre properly signed. The company says that, like a race engine, tolerances are therefore tight and benefit from a good few hundred hours.

IAG's Comeau describes the stress-relaxing/time ratio as a curve that is "initially quite steep so that the majority of change is accomplished within a few days, or at most weeks, of use". He says that while some parts do continue to improve over months, this much more gradual process may not be "readily discernible".

But according to Comeau, it isn't just the relaxing of stresses that make running-in important. He argues that as all the numerous parts that make up speakers differ in material, these all need to be running at a stabilised temperature to work harmoniously. "Initially the softer parts will start to warm to room temperature relatively quickly, but heavier parts, especially the drive unit chassis and magnets, will take much longer, up to 36 hours," he explains. "During this time the performance of the drive units will gradually change. You can speed this process up by playing continuous music, which will help dissipate heat to the metal parts, for example, as well as circulating air around inside the speaker enclosure to other components." Interesting.

PMC's Thomas has another tip to hasten the effect: "High-excursion, low-frequency sine waves can speed up this process for bass drivers."

OK so we're looking at around 40 hours (roughly four plays of Chris Rea's 'Blue Guitars'!) with more gradual progression perhaps coming down the track too.

However, as with cars nowadays, many products are now burned-in for some time by manufacturers before they leave the factory as part of the final stages of testing. This is the case for Cambridge Audio, with Dore stating that such initial sonic changes resulting from the run-in time "are likely to have happened before they reach the customer".

Considering the discussion so far, it makes sense that speaker manufacturers would run-in every component before using it during the product development stage, too, although it wasn't something

CHORD
VOLUME / IP
BALANCE / AV

I had really given much thought to before Thomas mentioned that it was part of PMC's process. "It is vital that we only use parts that have fully stabilised their acoustic behaviour, giving us the most accurate representation of each part's performance," he tells me.

What about electronics?

Case closed; engineers agree that loudspeakers change within and benefit from an initial bedding-in period. But what about electronics?

Just as the run-in time depends on the speaker's materials and driver size and configuration, Chord Electronics' Matt Bartlett says that "the necessity for a run-in period varies depending on the product type", with its power amplifiers using Ultima technology apparently benefiting the most from it. (Because of this, and going back to an earlier point, these are already run-in at Chord's factory before they are shipped.) "In contrast," he adds, "our preamps are less affected by this process, [and] our digital products, such as our DACs, streamers, and upscalers, typically do not require running-in."

Cambridge's engineers propose that, for components such as amps and streamers, the effects of initial one-off run-ins "can be less clear," adding: "We'd be concerned about the stability of a design if an amp was sounding significantly different over time." But more discernible, they say, is the effect a warm-up period before listening can have each time a component is powered on, giving it time to reach its optimum operating temperature. "Temperature definitely has an effect on the measurable and subjective performance of Class A/B amplifiers. A cold amp may have higher intermodulation distortion." It is why the company — and indeed many others — build thermal compensation into their designs, to allay such repercussions.

Running-in your ears too

And it isn't just the equipment that needs time to adjust but you too. Indeed, another surprise was how many engineers mentioned the effect of psychoacoustics when introducing a new component into your system for the first time. The ears need to run-in too, so to speak. While recognising that it is not theoretically part of a products' running-in process, Comeau says this is "a major factor in evaluating the subjective performance of loudspeakers and should not be overlooked".

"When changing loudspeakers from one design to another," he explains, "the 'filter characteristics' that the brain has built up when living with the original speakers will have to be erased and replaced by a new filter set which accommodates the acoustic performance of the new speakers in the room. Generally, with well-designed speakers, this happens within a few days or at most a week of use."

Chord Electronics and Cambridge Audio agree that customers should "allow a period for their ears to adjust to the level of musical information on offer" (Chord's Bartlett), that you have to "get used to the sound of new equipment over time, and that becomes your new reference" (Cambridge's Dore). Meanwhile, Neat Acoustics' Oakes paints a rather extreme (but feasible!) example: "If someone has been using an old pair of Celestion Ditton 66 for years, listening to a pair of Neat Petites for the first time could be a bit of a culture shock!"

Further to equipment and ears settling, Comeau also proposes that an aural adjustment to a room's acoustics takes place. While he says that the human brain has good sound processing abilities that allow it to gauge the room effects on a real instrument such as a piano, he explains that it takes longer with output from a speaker as it is "very different to the point source of an instrument and affects the room acoustics in a different way which, initially, results in some aural confusion. Most of this adjustment/processing is accomplished within a few hours of listening".

If, he says, the speaker engineer has not considered the off-axis performance, and therefore the reflections from the side walls, floor and ceiling are not similar in sonic character to that of the speaker's direct sound, then it will take longer for listeners to "accommodate the odd character of the reflections in the room or, at worst, will never be entirely comfortable with the sound". ***Becky Roberts***

MUSICAL FIDELITY
MUSICAL FIDELITY

Musical Fidelity LS3/5A

Loudspeakers

+
- Monitor-quality midrange
- Thrilling soundstaging & detail
- Very compact

−
- Nearfield use only
- Limited in ultimate level
- Ugly without grilles

RRP **$5,000/pair**

There's an unusual amount of large-font text inscribed on the back plate of each of these small speakers. "Nearfield Monitor Loudspeaker", it begins, then lists the nominal impedance (a high 15 ohms), and their power handling to be "30 Watts Speech & Music" (sic). Finally, it declares these speakers to be "made on British Broadcasting Corporation Specifications BBC RD1976/29".

They are indeed. This is a speaker design that has come to me through a time warp from the early 1970s. Indeed in many ways it is one of the world's most famous speaker designs, and a progenitor of hundreds of other later bookshelf speaker designs. The design's longevity has ensured continued popularity, with versions made over the years by Spendor, Rogers, Harbeth, KEF, Stirling, and now Musical Fidelity — all notably UK companies (it is the 'British BC', after all), although Musical Fidelity is now a division of Audio Tuning in Austria, as also mentioned on that back-plate. (They're made in Czechia, which isn't mentioned on the back.)

So a "nearfield" monitor. How near should you sit? From my listening, I'd say that if you can't pretty much touch them with your hands, then you're too far away. So that near.

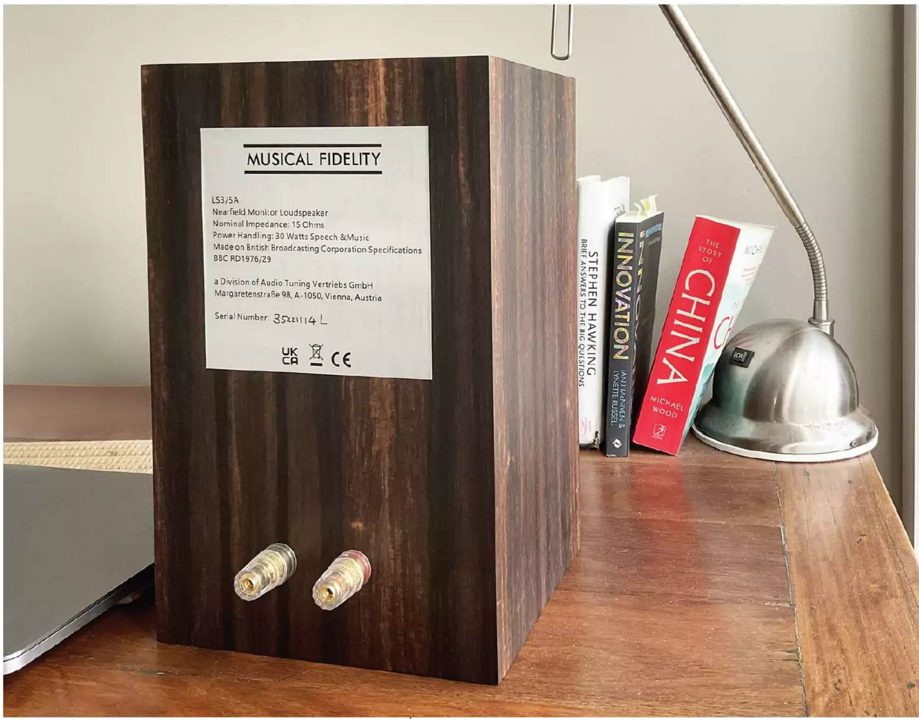
EQUIPMENT

I love the darkly grained Palisander veneer in which Musical Fidelity has wrapped these little speakers, which are just over 30cm tall and 19cm wide, with their 4.9kg weight indicating their solidity (12mm ply, says the BBC specification, amended from an originally more flexible 9mm). Their grilles are basic wooden rectangles with stretched cloth stapled into place on their reverse sides, and for once I may suggest leaving the grilles in place, because they are pretty ugly underneath, showing the staples holding Velcro strips in place, chunks of foam around the tweeter and visible wiring going behind its dome. Engineers may love it, but few others!

Musical Fidelity is shy on the actual drive units used, but the woofer is clearly a plastic composite of some kind (perhaps polypropylene), which is in keeping with the historical design that originally used a doped Bextrene cone sourced from KEF under Raymond Cooke. Cooke had a longstanding relationship with the BBC, and his newly founded company had been licensed in the 1960s to manufacture the Beeb's LS5/1A monitor design while working closely with the corporation's Research Department.

'LS5' was the designation for a 'Class A' design suitable for studio broadcasts (Musical Fidelity has also recently launched an LS5/9 design based on the 1983 version of that specification.) 'LS3', on the other hand, meant a design built for outside broadcast, to be used in the compromised confines of OB (production) vehicles, where larger 'Grade 1' monitors would not fit. The '5' in the LS3/5 meant it was the fifth such design. The 'A' suffix indicates later amendments to the design, presumably perfecting it since there never was an LS3/5B model.

Histories of the LS3/5A speaker vary, but the design was certainly created at the BBC's Research Department during the early 1970s. This department had a marvellous headquarters in a gothic mansion in Kingswood Warren, south-west of London (they stayed there until 2010) and at the time operated under Dudley Harwood, who later founded Harbeth


MUSICAL FIDELITY
LS3/5A
Nearfield Monitor Loudspeaker
Nominal Impedance: 15 Ohms
Power Handling: 30 Watts Speech &Music
Made on British Broadcasting Corporation Specifications
BBC RD1976/29
a Division of Audio Tuning Vertriebs GmbH
Margaretenstraße 98, A-1050, Vienna, Austria
Serial Number: 35221114 L
UK CA
CE
STEPHEN HAWKING
BRIEF ANSWERS TO THE BIG QUESTIONS
INNOVATION
THE STORY OF CHINA
MICHAEL WOOD

Loudspeakers. Some sources attribute the LS3/5 design to T. Sommerville and D.E. Shorter, but it was certainly heavily based on a design that had been constructed for use in one-eighth-scale models of venues (with all test frequencies similarly multiplied by eight). And according to Philip Swift, when he was MD of Spendor loudspeakers, that scale model had been the work of his company's founder, Spencer Hughes, who worked with Harwood at Kingswood Warren, and who was chief engineer on that audio scaling project.

"As one of his projects at the BBC, Spen built a small experimental loudspeaker for acoustic scaling experiments for studio recording-venue modelling," Swift told me a few years ago. "One day he listened to it with normal speed playback music and realised it didn't sound bad, mainly because it had a very flat response. It was later adopted as a basis for BBC project LS3/5A, a small B-grade monitor loudspeaker intended primarily for use in the BBC's outside broadcast vehicles."

Given the environments in which it was to be used, the little speaker was designed

BBC'S RESEARCH & FINDINGS: WHAT MAKES A GOOD-SOUNDING SMALL SPEAKER?

What were the principles that came out of the BBC's sound research? Firstly, the department discovered that making a very rigid cabinet wasn't very good for sound. If you make a cabinet too rigid, its resonance frequency keeps rising, falling into the midrange area where you're more likely to hear its effect. Instead, if you make a less rigid box that's heavily damped, it will resonate at much lower (bass-region) frequencies, where the human ear is far less sensitive.

So the BBC decided to use cabinets with thin flexible walls and damp them heavily inside to move the resonance frequencies to the lower bass. The original LS3/5 speaker designs started with 9mm walls but changed to the now standard 12mm walls made of birch ply. The result? A lovely midrange, with a slightly plump bass.

The front and back panels of these early designs were also fixed with screws rather than glue, and that allowed for a small amount of flex, compared with the more rigid design when the baffle is glued on.

At the time, paper cones dominated driver designs in speakers, but the BBC wanted to use a material that also didn't ring or resonate as much and could be damped down. New plastics such as Bextrene and polypropylene were invented during this time, and they had exactly the light and rigid properties the engineers were looking for.

The drivers in the original LS3/5A were a 110mm Bextrene mid/bass driver and a 19mm Mylar tweeter dome. These were originally made by KEF (T27 unit for the tweeter, B110 for the mid/bass cone) but are no longer in production. These days, you can buy various close-to-original reproduced parts of the LS3/5A speaker sold by Falcon Acoustics — a hi-fi brand founded by Malcolm Jones, a senior engineer at KEF who worked on those original drivers used in the BBC's LS3/5a. (Hints of KEF's BBC link are still present in the naming convention of their speakers today, from the LS50 standmount to the LSX wireless speaker systems.) The result of using a damped Bextrene cone? A really smooth sound, but one that came at the expense of the punch and attack you tend to get with paper cones.

Thirdly, as this review alludes to, the LS3/5A is a small box, about the size of a shoebox. It has a five-litre cabinet volume with a small driver. It does deliver bass, but not a huge amount of it. The engineers introduced a small hump in the frequency response, at around the 100Hz mark — it's not too deep, but this was to highlight any low-frequency problems or hums during the recording or transmission of a broadcast. It's why, when listening to the Musical Fidelity LS3/5A, you can find that the amount or impact of bass changes from song to song — it depends on whether the song hits that 100Hz bump. This effect also adds richness to the voices, and it's why the midrange sounds so full and appealing on these speakers. Remember, these speakers were originally designed to monitor broadcasts in mobile units, with accurate reproduction of human voices being the focus. The LS3/5A were only ever meant to be used by internal studio professionals, not for home listening.

The other advantage of having screwed-on front and back panels was that the BBC pros could unscrew the baffle and quickly change the driver or components in case anything was faulty.

The problem, if you can call it that, was that hi-fi enthusiasts who came upon the speakers really liked the way they sounded. Of the few models made available at the time, they quickly gained a reputation for their sonic talents, especially for their size. And so it ignited not only a decades-long fascination with these original BBC speakers but also inspired many audio engineers to make their own small speakers — and they've never looked back since.

You might find small differences in the specs of the LS3/5A speakers throughout the years as several versions were made, but the essentials are: it's a two-way closed-box design, pairing a 19mm tweeter with a 110mm mid/bass cone (although Falcon uses a 138mm cone), housed inside a birch ply cabinet. The compact dimensions of the speaker measure 305mm x 190mm x 165mm (hwd). Early LS3/5A models were 15 ohm-designs, while later ones were 11 or eight ohms. The frequency response measures 80Hz-20KHz (+/-3dB) and the crossover frequency is 3kHz. The weight of the speakers can range between 4.9kg to 5.5kg each today, while a variety of cabinet finishes are available depending on the manufacturer. The basic sonic character of the speakers, however, remains the same.

Small standmounters from PMC, Spendor, Linn, ATC, Epos, Wharfedale and many more can all trace their origins (and in many cases, the speaker engineer's inspiration) back to the BBC, and while they don't necessarily copy the same design principles as the BBC department's, you can even find the fingerprints of the LS3/5A present in very modern speakers. More recent examples include the Bowers & Wilkins 607 S3 (which have the near-exact-same compact dimensions) and the Neat Petite Classic (which prove you can have astonishing high-fidelity sound from tiny speakers). ***Kashfia Kabir***

MUSICAL FIDELITY

as a sealed enclosure, no ports. "The LS3/5 had a deliberately tailored response with a degree of LF lift to compensate for the small enclosure volume," Swift remembered. "So one could say it was a good-sounding loudspeaker but not that accurate, and it had very limited power handling capability." And as noted, still does. Not entirely by coincidence, I had just the thing to hand to drive it: Musical Fidelity's A1 amplifier, another nostalgic recreation prompted by the company's genuine love for the original product. The A1 brings 25W of potentially high-current Class A power — a perfect match.

My colleague who spent time with the speakers last year tried them with a variety of stereo amplifiers they had to hand, including the high-end PMC Cor integrated, limited-edition Naim Nait 50, Rega Brio, a mid-80s Mission Cyrus One and, yes, the Musical Fidelity A1 – and the ones that stood out as the best fits were the A1 and Cyrus One pairings.

PERFORMANCE

Why do people continue to wax lyrical about a small speaker designed to be used in compromised outside broadcast conditions? It's not their bass, which was intended to reproduce 100Hz but not much lower; the specs for these Musical Fidelity versions say they go to 80Hz -3dB, and their tail-off will be longer and slower than for a ported design. No, it's the combination of midrange and treble that has bewitched so many owners of LS3/5A speakers — their soundstaging, detail and their ability to present vocals with astounding realism.

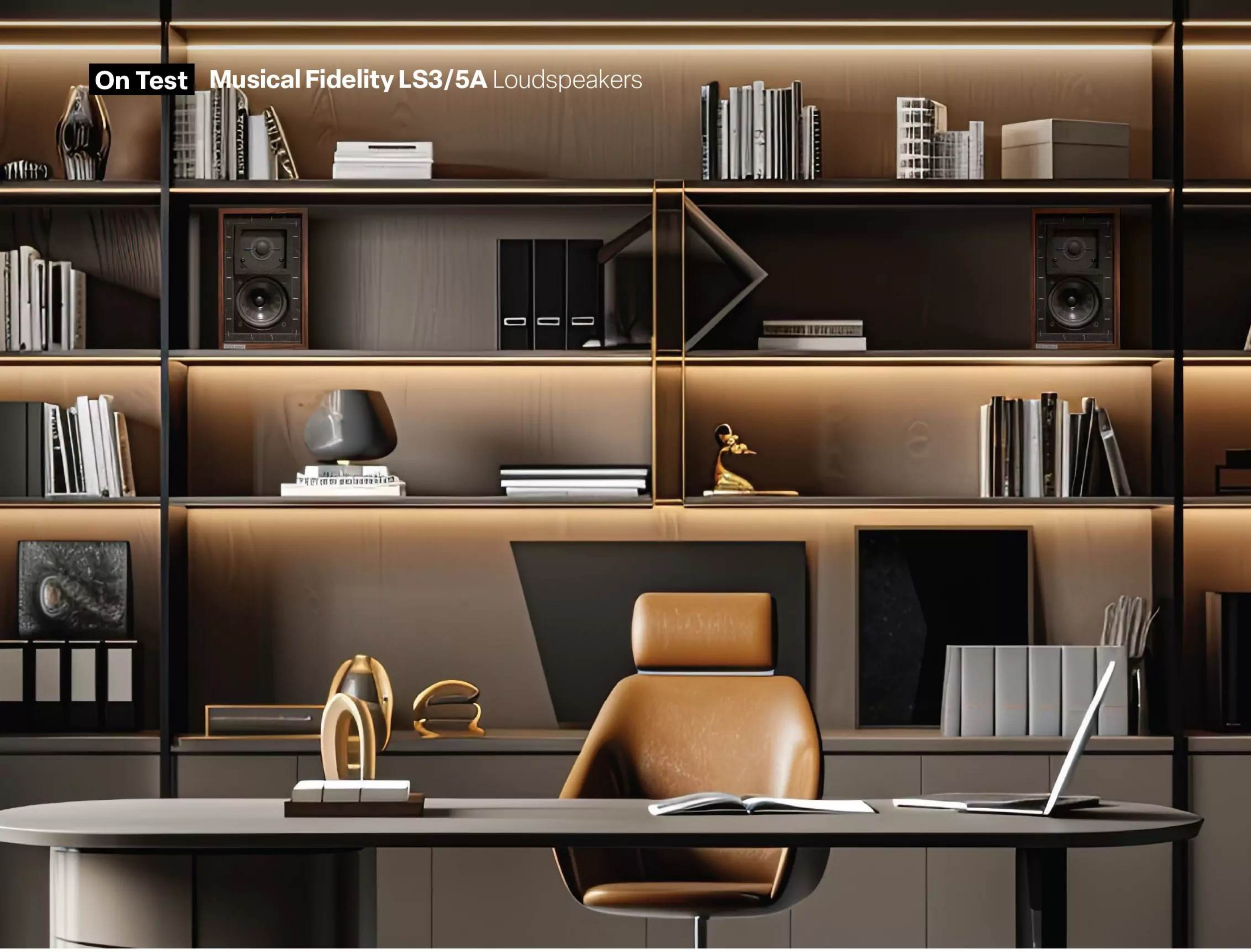
When that same colleague spoke to Andy Whittle of Rogers Hi-Fi a few years back, Whittle said that the BBC speakers' sound is "all about the vocal and the voicing. If it's for an outside broadcast van and they are mixing, the vocals have to be 100% spot on. If you get that right in the critical mid-band, the bass and top aren't so critical. Get it right and you're pretty much home and dry."

Yet that isn't really what I had heard in my week warming up these speakers on general duties on either side of my TV, where they were driven by the significant power of a Classé AV amplifier. They were actually excellent speakers for the TV: very clear voices, dynamic music, though not overly punchy or dynamic in my large TV room. Good small speakers, then, but no great surprises, no 'wow' moments.

For real revelations I had to wait until I'd installed them up in the music room, replacing rather larger standmounts, and with the A1 amplifier cabled up to their massive rear binding posts. I sat back in my normal listening space. Then I pulled my chair closer and suddenly the sound came to life. I went closer still, until I was in effectively a desktop scenario, the speaker cone centres 80cm apart, and with only about the same distance to my ears. Tada! Now I had it.

At this distance the bass was sufficiently supportive to fill the sound, while guitars sounded crisp and crunchy, and vocals — ah, just gorgeous. So feed them folk, or an acoustic track like Laura Marling's *I Speak Because I Can*, and there really is monitor-quality purity to the vocal, every aspirate sounding realistic — no spit, no sibilance, even with the grilles pulled off, which is how I ended up using these speakers in the end, choosing the extra edge to the sound when the drivers are bared, my preference over keeping the uglies hidden.

Their frequency range suits male vocals



equally well; I loved its presentation of John Gorka's rich folk tones on *The Gypsy Life*, and even over a busy funky mix like *Use Me*, Bill Withers' voice could rise in the central space to enjoy clarity for every word.

Detail and soundstaging are indeed highlights of these speakers: while sitting up in nearfield position, the elements of that Withers track were spread wide and kept sharp-edged and crunchy, whether the left-channel electric Hohner Clavinet, the right-channel guitar chops or the impeccably recorded drums across the centre. The bass didn't delve the depths, but nor was there any sense of the sound being cut off at the knees; the overall balance was complete, just smaller, moving less air than a larger speaker might achieve.

You can't thrash the LS3/5A speakers; they don't like it. Too much, too loud, and their dynamics collapse. They didn't much like Chumbawumba's 'Tubthumper' being pushed through them at nice bouncy levels; the choruses became shouty even with the grilles in place, though the more spacious sections were again well resolved.

But there's plenty of level for nearfield listening, especially with less complexity; busier classical pieces kept their tone but lost their dynamics. Chamber pieces, on the other hand, could find their space: Nigel Kennedy out in front of 'Air on the G String', or Susan Narucki's soprano soaring above Tavener's 'Song of the Angel'. Again I sat close, to have the low string drone sufficiently strong and the soundstage spread. Further back and things got muddier; I lost the separation.

In such circumstances you might be tempted to put them somewhere they'll get wall or corner reinforcement to lift the bass, but that can muddy the upper low-end frequencies and break down their best qualities. Give them a little space, and then sit close. Real close.

> ... speakers that work best up close, where you can enjoy their magnificent midrange, thrilling vocals...

CONCLUSION

They might seem pricey for speakers that work best up close, where you can enjoy their magnificent midrange, thrilling vocals and crisp stereo separation. For a big room, even a small room if you're sitting on the other side of it, not so much joy. But after all, that's what they were built for, all those years ago. Those using them correctly and pairing them correctly (and the A1 is a great partner) will continue to love them dearly. As did I. ***Jez Ford***

SPECS & CONTACT

Type: Two-way sealed enclosure
Drivers: 19mm tweeter, 110mm woofer
Frequency response: 80Hz-20kHz +/-3dB
Nominal impedance: 15 ohms
Sensitivity: 82.5dB
Recommended amplifier power: 20-150W
Dimensions (HWD): 30 x 19 x 16.5cm
Weight: 4.9kg (each speaker)
Distributor: Audio Marketing
T: (02) 9882 3877
W: audiomarketing.com.au

Melbourne Audio Club
Monthly General Meetings
Est. 1974
Melbourne Audio Club

The oldest audio club in the world celebrates its 50th year

Writer Peter Xeni | **Photography** Vivien Encel & MAC

The night wind blew down Bridge Road as the municipal clock near the hi-fi store struck 10pm. The store had closed an hour prior and the street was empty but for a gaggle of men huddled together in the doorway, talking intently. They were strangers but would soon become good friends. The alluring sound of tube amplifiers, lighting the window, was a call from the Odyssey, drawing them together in their winter coats. They had an idea for a club.

The men exchanged names and addresses before parting ways in various directions, determined to meet again soon. The store owner, Alex Encel, suggested they meet regularly at some place nearby. This was good for business, which he later boosted by mentioning the club in his audio classifieds in *The Age* newspaper.

Club co-founder that wintry night, Kevin Morrish, now 91, had previous experience in community club management and mailouts using his typewriter and phone contacts, and would provide the impetus for the comradeship via a newsletter. That led to home meetings, which became central to the club's existence.

"Our early president, Bob Toll, had a garden tool shed that we worked in," recalls Kevin. "I used to type the newsletter there myself. We would drink wine and get the magazine out. We even collated and stapled the pages ourselves and licked the stamps. Members were enthusiasts and when we had enough good copy, I'd send the hand-typed copy to a small suburban printer around the corner ... it was a team effort from everyone — not just me — putting it together."

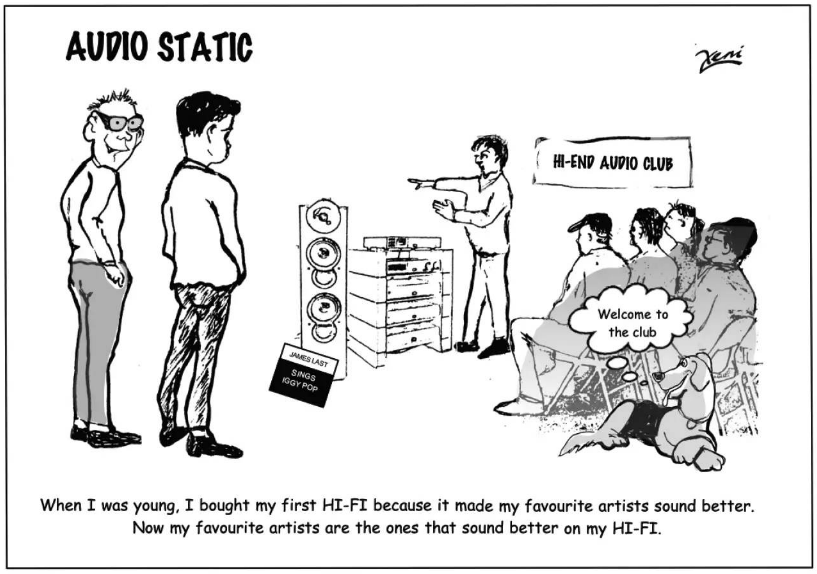
Club meetings moved from place to place until they found a home at an empty nunnery hall in Camberwell — "the proto of the Willis Room club room," says Kevin, where the meetings are held today.

The spark had been lit; the Melbourne Audio Club was officially formed with Kevin's new group of friends, including the late Graham Cobb and Bob Toll who had also sheltered in the doorway that night.

Fellow audio enthusiasts came from all over the city to attend MAC meetings, "to listen, discuss, learn and share their enthusiasm for audio," says Kevin. In April 1974, MAC would become the world's longest continuously running audio club.

Despite his advanced years, Kevin is still as sharp as a fine razor (or stylus!) and remembers the early days well, his

Kevin Morrish with his DIY speakers

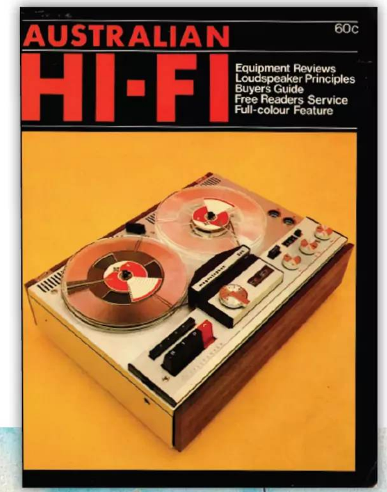

AUDIO STATIC
Xeni
HI-END AUDIO CLUB
Welcome to the club
JAMES LAST SINGS IGGY POP
When I was young, I bought my first HI-FI because it made my favourite artists sound better.
Now my favourite artists are the ones that sound better on my HI-FI.

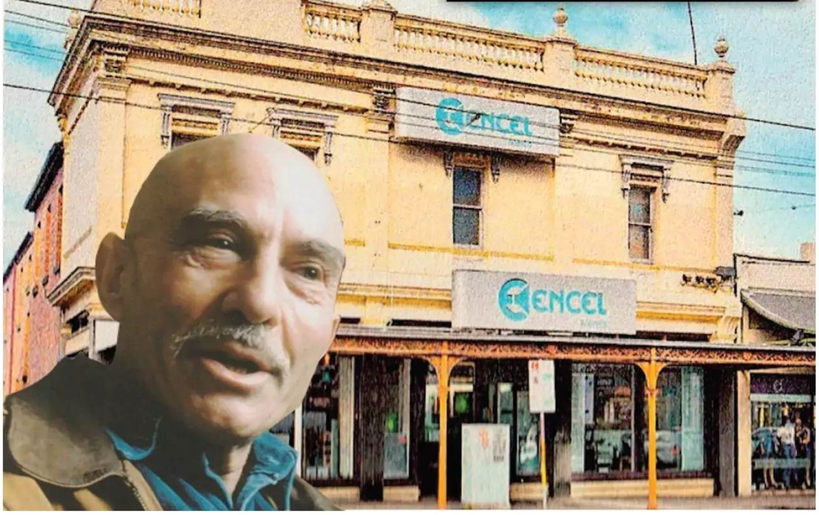
daughter, Lynne Winks, confirming his recollections. He has an analytical mind, she says.

Kevin was a physics and maths teacher at various secondary schools before becoming the principal of Warrandyte High School. He met his first wife, Florence, a home economics teacher, while she was hanging his lab coat on the school's wash line. The students noticed them flirting and would pin the arm of his coat over the shoulder of her washed apron. They were soon married and Florence became his close hi-fi companion for many years.

Kevin says it was a pity the club didn't attract many women, but he and Florence made many close friends. The eccentric Bernard Roler, the schooled Frenchman with an encyclopedic knowledge of music, was one. Laurie Cohen, an aural/hearing expert who developed groundbreaking, internationally patented hearing aids, was another. These friendships are one reason why Kevin approves of the GASS (Gerald's Chicken Sandwich Audio and Social Day) events. Dedicated to the late Gerald E., a former member, it sees the usual evening format expanded into a longer day, allowing members to bond in a less formal setting.

Right: Australian Hi-Fi Vol 1 #2 1960
Below: Alex Encel at his shop





THE INTERVIEW:

What was the club's primary purpose?

It was a place where we could compare and listen to equipment that was similar or dissimilar and make comparisons. Some of the gear was built by the members using hobby magazines while some was store-bought, often modified. But most was from our own small membership, who would bring in their gear for comparisons. In fact, we founded the club on a comparative basis, listening for differences and making value judgements for ourselves. Opinions varied as members were from all walks of life. Some were impressed enough to ask DIY members to build them amplifiers and speakers. [Kevin's own uniquely designed speakers sit proudly in the living room of his daughter Lynne's home. He says most members bought *Australian Hi-Fi* magazine to follow overseas products, and overseas hobby magazines to build their own equipment. Keen members followed European trends, particularly England's burgeoning industry. Gear such as the LS3/5a BBC speakers, Rogers, Mission and Linn turntables, plus the Swiss Thorens turntables. CD players didn't exist back then, but reel-to-reel tapes did, as did cassettes, which were considered an inferior sound source, an opinion lately being debunked.]

Aside from *Australian Hi-Fi*, how did you learn of these trends?

Alex Encel's store was a focal point for that. He would import his own gear and showcase other products, arguably making Encel's the premier hi-fi shop in Australia. He was a pioneer. He later made quality amplifiers and speakers and sold them commercially, which was previously unheard of on that scale. That's where we all first met. It was a hangout.

Legend has it he was an astute young man, who first wore beatific kaftans and beads before abandoning the garb when he saw business opportunity...

We're all forever grateful to Alex. Alex advertised in the Green Guide in *The Age* and promoted the club, especially when he had a hi-fi column in it. It inspired the mouthpiece of our club, The Melbourne Audio News. Together with others, I used my experience at Apex organisations to produce it regularly, and the club grew exponentially through keeping in touch.

How did the club operate?
Initially, before formalising the membership, we charged a modest fee to pay for the hall, and that was it. In the earliest days we had irregular dinner meetings at various homes, but myself and others pushed the idea of a regular venue. By this time, the not-for-profit registration legalities and charter of the club membership were established. Committee members introduced a basic fee to cover operating costs, plus tea and biscuits. Volunteers generously sort the kitchen and set up the chairs and display tables, and everyone pitches in to foster a welcoming vibe.

[Naturally, as the daughter of one of the co-founders, Lynne had a ringside seat watching the audio community grow. She was bemused by the 'fashions' of the audio world. "One particular one I found amusing was the belief in cables and how a particular one would spectacularly enhance the sound," she remembers. "But I couldn't really hear much difference. I saw huge wreaths of cables made from esoteric metal, sealed in some protective fabric, snaked over the floor. I'm not sure if some ideas were snake oil."

Kevin dismisses this as experimentation and says the club was (and is) always in search of interesting innovations; retailers who had something different to display. These cutting-edge importers and retailers would bring their music and equipment to various locations in the early days before the club moved to its permanent home at the Willis Room (at the Whitehorse Council in Maroondah Highway, Nunawading) in the 1980s.

"Some would praise the benefits of their cable interconnects while others would try it for themselves," says Kevin. "All of it was part of the hobby. In my speakers I used plastic drinking straws, which channel friction resulting from the movement of the drivers, thereby reducing cabinet resonances. And they work: you can hear the difference."

MAC's 50th-birthday celebration, held at the Box Hill RSL

One of Kevin's ideas involved putting the turntable and the amplifiers on a sturdy piece of furniture supported by poles drilled through the suspended wooden floor into the soil below the house, and concreted.

All changes to improve your equipment are to get as close as you can to that live performance... the ultimate reference

"Dad says it notably reduces interfering sound vibrations," says Lynne. "The turntable was totally isolated from the wooden floor; you could even pivot a glass of water on the turntable lid and nothing would be disturbed as people walked around the house."

One renowned MAC member, Gerald, famously built his speakers into brick enclaves in the concrete corners of his large music room. It remains the most remarkable audio sound this writer has ever experienced.]

What were your early impressions of these halcyon days of audio in the 70s?
It was an educative experience when comparisons were really the fundamental part of the club. Being able to hear the same record, in the same room, at the same volume. It was more than a product exhibition; we could compare 'this' to 'that'.

How do you judge an audio system?
You can only judge it against live music. Live music is the ultimate reference. That's what you're approximating to. You should be asking yourself, 'How close is this to a similar performance of that music by a live performing group in a hall with good acoustics?' All changes to improve your equipment are to get as close as you can to that live performance. That's the purpose of audio to me.

I've been a live music fan from my earliest days. I would immediately go to the city to visit my mother's sister in Burnley and then go to record shops. I loved Miles Davis, Ella Fitzgerald and Louis Armstrong. Audio was secondary to my live music interest. I would see Graham Bell in Melbourne, one of my favourites. I'm a long-time subscriber to the Melbourne Symphony Orchestra.

And what of the future of audio?
I don't have any interest in Spotify or Tidal, and I'm only interested in real audio in a good system. I certainly don't seriously listen to music on my computer — never! People are being dumbed down with earbuds and soundbars.

It is said that the club's core purpose is to impart audio wisdom...
[He smiles.] I've done my best to educate... it's been my life.

POSTSCRIPT: Kevin Morrish was a luminary at the sold-out Melbourne Audio Club's 50th year celebration, held at The Upton Room in the Box Hill RSL. After years of ailing leadership, the club is thriving again under the auspices of businessman David Chambers, programmer David Polanske, Prof Paul Boon, ad-man Tony Fisher and accounts man Jonathon Lew, plus a cohort of new bloods like Damian Ware. *Stereonet* has also lent its support, but its greatest backer, together with Alex Encel, is *Australian Hi-Fi* magazine, launched in 1969. Together they spread the good word of hi-end audio in Australia, says Kevin.

LINE 1
51
192.168.211.1
STANDBY
SOURCE
BLADELIUS

Bladelius Ask

Integrated Amplifier/DAC/Streamer

+
- High power
- Great all-round sound
- Modular construction

−
- Lower-quality remote
- Discreet power-on sequence

RRP **$16,500 – $23,590**

It's unlikely you will have heard of Michael (Mike) Bladelius, despite him being one of the most famous audio designers in the world. For most of the time he has been in the audio component design business, he's designed equipment sold under other brand names, such as Mark Levinson, Classé Audio and Threshold.

His name only came into the spotlight in 1997 when he and his son Alexander established the Bladelius Design Group in Sweden and registered the brand names Bladelius and AB-Tech (the latter incorporating the son's initials into the name). Although Bladelius is most famous for its audio amplifiers, in particular the Grendel and Ymer power amplifiers and Beowulf monoblocs, the company also won plaudits for its Gondul multi-format player and its Embla, which has been aptly described as "a preamplifier with USB inputs, a built-in DAC, a built-in ADC, a built-in CD transport and a built-in bit-perfect ripper".

That description of the Embla could well apply to the Bladelius Ask, except that you would have to add that it's *even more* sophisticated in its offering. The Ask is not just a preamplifier but a fully fledged integrated amplifier with all of those features, plus it also adds into that all-encompassing mix a music streamer, meaning it can access and play music from anywhere on your network or indeed the Internet, likely via music streaming services.

The names 'Embla' and 'Ask' are actually intertwined; in Scandinavian mythology, the Norse God Odin created the first man of Middle Earth (Ask) and also the first woman (Embla).

THE EQUIPMENT

In common with many of newly designed high-end audio components, the Bladelius Ask is designed to be controlled by an app loaded onto your phone or tablet. Bladelius recommends you use the third-party app developed by Italian company Volumio — the same app that is used by Pro-Ject, Musical Fidelity, Bryston and others — but you can also use the remote control supplied with the Ask, so long as you connect the amplifier to your network using an Ethernet cable as opposed to via Wi-Fi.

Alternatively, you can use the three manual controls fitted to the front panel of the Ask. These, says Bladelius, "have been designed to enable you to access all the ASK's functions with a minimum of effort".

My review sample came with the full suite of inputs available for this design, which is otherwise available in several different versions. You can order the Ask simply as an integrated amplifier with only line-level inputs ($16,500), or with a streamer/DAC ($20,990). You can optionally add an MC phono stage to either version, which adds an additional $2,600 to the cost. The fully-optioned version will set you back $23,590, then.

The Bladelius Ask being reviewed here was fitted with four line-level analogue inputs, comprising three unbalanced (gold-plated RCA terminals), one balanced (gold-plated XLR) and one phono input (unbalanced RCA). It was also fitted with five digital inputs: two opticals (standard Toslink connectors), two SPDIFs (RCA) and

You can order the Ask simply as an integrated amplifier with only line-level inputs, or with a streamer/DAC

one AES/EBU (XLR). My sample also had two USB inputs (one Type-A and Type-B apiece) and a standard Ethernet socket. It also had Wi-Fi functionality, for which an external antenna fitment was supplied.

The USB input can accommodate PCM up to 32-bit/768kHz and DSD up to DSD1024. All signals are processed by an XMOS XU216-512- DSP IC, programmed with Bladelius' own in-house algorithms and digital filters.

The Bladelius Ask uses a Raspberry Pi microcomputer to provide its streaming options, which include the ability to play music files from NAS drives and USB devices and access streaming services such as Tidal, Qobuz and Spotify. In addition to Wi-Fi, it also has both Bluetooth and AirPlay capabilities. It's also Roon Ready certified.

The speaker terminals are high-quality WBT nextGen multi-way types labelled with (+) and (–) identifiers, but according to the Bladelius website the (–) terminal is not at ground potential, as is the case with the great majority of audio amplifiers, so be sure to connect only fully passive loudspeakers to these terminals.

BUILD & DESIGN

Open up the Ask and the most obvious feature is the massive 2kVA toroidal power transformer. Alongside it are six 10,000uF 63V 'Kemet' electrolytic capacitors, which according to Bladelius's website comprise a "massive capacitor bank". Presumably, this capacity is augmented by additional smoothing capacitors located on the multiple printed circuit boards used to provide the various circuit options. The MOSFET output devices (four pairs per channel) are said to be capable of delivering '220 watts at 8 ohms' and 'as much as 400 watts 4 ohms' when both channels are driven, but there's no indication of whether this power output is at a single frequency, nor the bandwidth over which this power is able to be delivered. It isn't clear whether the output is continuous or dynamic either.

The chassis of the Ask is made out of CNC-routed non-magnetic alloy, which Bladelius says "improves the sound quality". The company further claims that the design and layout of all the components used are optimized to "minimize the impact from vibrations".

One thing the circuitry is not optimized for is standby power consumption, because according to *Newport Test Lab*'s measurements (pages 54 & 55), the Ask draws nearly 40 watts of power in standby

Diana Krall
Devil May Care
BLADELIUS

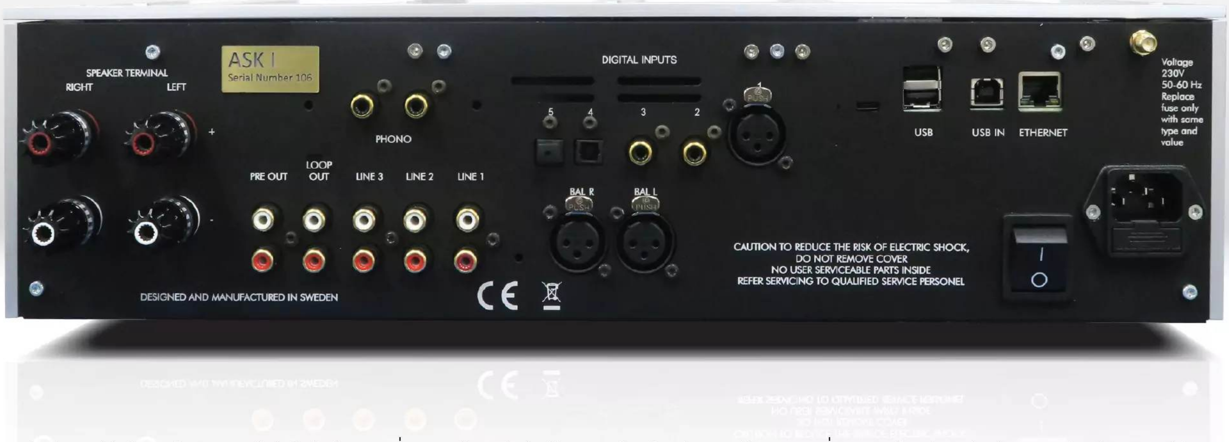
About the Designer

Michael Bladelius says he was only thirteen years old when he designed and built his first working amplifier, and it was this that put him on the path to his career as an audio equipment designer.

Like all amplifier designers, Bladelius was aware of one of the world's pre-eminent amplifier designers, Nelson Pass, and so it was that, whilst on a gap year before starting his university degree in Sweden, Bladelius happened to be in California, where Pass was at the time working for Threshold Corporation. Bladelius decided to seize the opportunity of a lifetime and contact Pass, who invited him to interview for a position at Threshold — a position he subsequently won, resulting in Mike Bladelius moving to the US.

Following a change in Threshold's ownership, Pass left the company and, in 1991, Bladelius was appointed Head of Design at Threshold, during which time he was responsible for the T2 preamplifier and T-200 amplifier, components that for many years were listed in the 'Class-A' section of *Stereophile* magazine's listings of recommended audio equipment

Bladelius left Threshold in 1994 and returned to Sweden, at which time he established Bladelius Design Group Aktiebolagas as an audio design and engineering consultancy. Under its auspices, Bladelius worked on designs for Classé Audio as well as for a company called Ultra Analog, which provided design services for a number of high-end US-based audio companies. Bladelius also went into partnership with a German distributor of several high-end brands, seeing him design equipment that was sold under the 'Advantage' brand name. After the cessation of that partnership, Bladelius began designing and building audio products to be sold under his own name in 1977. Originally based in Herrljunga in Sweden, Bladelius Design Group is now headquartered 35km closer to Gothenburg, in Alingsås.


ASK I
Serial Number 106
SPEAKER TERMINAL
RIGHT
LEFT
PHONO
DIGITAL INPUTS
PRE OUT
LOOP OUT
LINE 3
LINE 2
LINE 1
BAL R
BAL L
USB
USB IN
ETHERNET
Voltage 230V 50-60 Hz Replace fuse only with same type and value
CAUTION TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER NO USER SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONEL
DESIGNED AND MANUFACTURED IN SWEDEN

mode. I would, therefore, most definitely recommend switching it off at the mains power switch whenever you're not using it.

REMOTE CONTROL

While I admire the fact that Bladelius has included a remote control with the Ask, despite the company obviously intending you to use other, more modern and sophisticated methods to operate it, I have to say that the remote is nowhere near the same build quality of the Ask itself, being somewhat plasticky. And the button labelled 'Mute Amp' did not mute the Ask's output for me during testing. It seems that it's possible to purchase a far higher-quality remote control, made from solid metal, so this is a discussion you could have with your hi-fi dealer.

I was somewhat baffled when Google Translate informed me that the word 'Brokk', printed on the remote control, was Norwegian — not Swedish — and somewhat concerned when the search engine further advised that the word's English meaning was 'hernia!' Then again, even Google says its translations are only 94% accurate!

IN USE AND LISTENING

I was frustrated by the turn-on process for the Ask — not by how long it takes, which is around twenty seconds, but by the fact that while the Ask is turning itself on there is absolutely no visual indication on the front panel that anything is happening at all. The only tell-tale that you've actually initiated the turn-on sequence is a few faint clicking sounds from inside the chassis. There's also no visual indication that the Ask is in its standby mode.

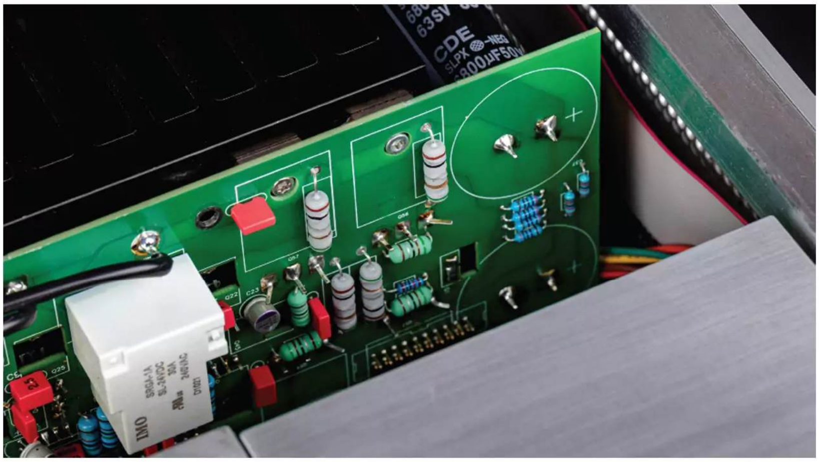
Once the amplifier is powered up, all functions can be controlled using one small push-button on the front panel in combination with the domed rotary control. The choice of a domed dial makes control difficult for those with limited use of their fingers, but I guess you can always use the app or remote.

Despite the expanse of black acrylic on the Ask's front panel, the actual area of the blue LCD display is very small, so you'll be hard-pressed to see it from a distance, even if the display brightness is switched to its highest level, labelled 'Normal'. The other two levels are identified as 'Low' and 'Medium'. You can also switch the display off entirely. These aspects of the display's design are further evidence that Bladelius expects most people to use the Volumio app for control.

At this point, I must also say that I was disappointed with the *Owners' Manual* supplied with our ASK, which was rudimentary in the extreme, just five pages long and with the bare minimum of information. This was particularly troubling for me because according to Bladelius's website, the circuitry inside the Ask "provides a truly balanced design without ground as reference for highest possible performance," meaning that the negative speaker terminals are not referenced to ground, and so if you did connect them to ground (potentially by connecting a powered subwoofer via its high-level inputs), the amplifier could be damaged.

When I searched the company's website for a more detailed version of the manual, I discovered there are no downloadable manuals at all for any of Bladelius's products. The manual recommends you use Volumio's website for information on how to operate the Ask, but I didn't find Volumio's site very easy to navigate. Again, I recommend you obtain help from your hi-fi dealer. Luckily, operation is fairly intuitive, although probably only if you're already familiar with how to operate a music streaming device.

The first note I made after commencing my listening sessions was that you won't have to be concerned about needing any more power than is available from the Bladelius Ask, no matter what loudspeakers you use. I discovered very quickly that the Ask could drive my relatively inefficient reference speakers to deafeningly loud listening levels in even the largest of the listening rooms I use, and did so without any audible change in tonality across the



From its 2kva toroidal transformer and huge capacitor bank, output is 220W per channel at 8 ohms and the peak current output is +/-68A various volume levels used during my days of evaluations.

For many years, one of my regular albums for auditioning has been Fleetwood Mac's famous 'Rumours' album, so I was rather chuffed when in 2020 one of the best tracks on it, *Dreams*, made it onto Billboard's 'Hot 100' list for the first time since 1977. Paradoxically, it wasn't due to anything Mick Fleetwood had done; a US skateboarder named Nathan Apodaca who had filmed himself skateboarding to the song posted his video clip to TikTok, where it promptly went viral.

AMP
Standby
CD
DIM AMP
DIM CD
TAPE LOOP
RANDOM
BURN
TIME
DISP EDIT
MUTE AMP
Source
Volume
REPEAT
CD/SACD
Brokk
BLADELIUS

Playing *Dreams* through the Ask, I was first impressed by the perfect rhythm and pace of the immaculately delivered bass line and drums. It's such a simple intro that if it isn't done perfectly it is a little boring, but the Ask's delivery of it immediately piques the interest. Then, when I heard how the amplifier introduced Stevie Nicks' voice to the mix, with that slight echo effect, I was smitten all over again.

Also perfectly timed is Fleetwood's stick on his high-hat. I loved the way the Ask contrasted the sound of Christine McVie's backing vocal against Nicks' lead, too. The purity with which the Ask delivers this track is notable. With lesser amplification, it can sound sonically crowded as if there's too much going on, but when it's played through the Ask I found the presentation to be wide-open and totally uncongested.

One of the many reasons 'Rumours' is a favourite tester of mine is the sound of John McVie's fretless bass on *The Chain*, but also, in particular, the riff he delivers around three minutes in — totally distinctive and often claimed as one of the most famous in rock. Listening with the Ask, I could actually hear the engineer wind back the volume of McVie's bass to accommodate Lindsey Buckingham's lead guitar soaring in on top. The sizzle of the cymbals in the background is super-realistic as well.

I could actually hear the engineer wind back the volume of McVie's bass to accommodate Buckingham's guitar

When it comes to evaluating midrange, I'm rather fond of the highly underrated Judee Sill and was very pleased to discover whilst reading Bernie Taupin's latest book, 'Scattershot: Life, Music, Elton and Me' that he is also a fan. The first track on her sophomore self-titled album has that glorious close-miked sound quality that was popular with recording engineers back in the 70s, but at the same time those same engineers didn't fuss around with the lead vocal, so when Sill sings 'Crayon angel songs are slightly out of tune, but I'm sure I'm not to blame', I can hear her perfect pitching, her beautiful enunciation and the total lack of sibilances when singing words involving the letter 's'. The crisp guitar picking is also in clear evidence, with no smearing at all.

Sill's talents as a lyricist and composer are no better evidenced than on track three, *The Lamb Ran Away With The Crown*: the rhyming, the rhythms, the key changes and the different time signatures she employs are masterful. These all-important elements of songcraft have been gradually eroded over the years. According to YouTube's most-loved music analyst, Rick Beato, chart music has declined in complexity since Sill's time. "Of the No.1 hits between 1965 and 2009, 25% had a modulation — a key change," he says. "Sergio Mendes's 1983 hit *Never Gonna Let You Go* has 22 modulations, but since 2009, no [US No.1] songs have had a key change."

Similarly, listen to the syncopation on *Jesus Was A Crossmaker* and to the deliciously analogue multi-tracking, not to mention the sound of the drum kit, from kick-drum to cymbals — again, all delivered to perfection by the Ask.

Incidentally, Taupin's new book is a real page-turner, and he introduced me to many musicians who previously had not been on my radar, as well as a few controversies that had slipped through to the keeper, such as the backstory to the lyrics of Dory Previn's *Beware Of Young Girls*.

I have most (but not all!) of the digitally stored music I use for auditioning in several formats, so I was able to compare the sound of the line-level inputs against that of the digital inputs and of the streaming inputs. Quite frankly, there was so little audible difference between them that you can be confident in using whatever playback method is most convenient for you. That being said, I would not recommend Bluetooth or AirPlay if you're after the ultimate in fidelity.

The Bladelius's phono stage sounded fine, but if you're truly serious about vinyl you will, of course, be using your own external phono stage, so I didn't examine its phono performance too closely.

CONCLUSION

The Bladelius Ask certainly has a few design quirks in terms of its operation, but it's easy to fall in love with the power on tap, the revealing sound quality and the Swiss Army knife of tools that are available to get your music into — and out of — its undeniably gorgeous livery.

Indeed, it isn't surprising that a product carrying the Bladelius name performs to such high quality. ***Steve Holding***

SPECS & CONTACT

Power output: 220W per channel (8 ohms); 400W per channel (4 ohms)
Distortion: <0.01%
Signal-to-noise ratio: >125dB
Frequency response: 1Hz–100kHz +0/–3dB
Inputs: 3 x unbalanced RCA, Balanced XLR, Loop Out
Optional add-ons (see copy): Phono, 2 x USB (Type A, Type B), 2 x optical, 2 x SPDIF, AES/EBU, Ethernet, Wi-Fi, Bluetooth
Dimensions (HWD): 12 x 43 x 47cm

Distributor: Absolute Hi End
T: 0488 777 999
E: info@absolutehiend.com
W: www.absolutehiend.com

Diana Krall
Devil May Care
BLADELIUS

Laboratory Test Report

Readers interested in a full technical appraisal of the performance of the Bladelius Ask Integrated Amplifier should continue on and read the LABORATORY REPORT published on the following pages. Readers should note that the results mentioned in the report, tabulated in performance charts and/or displayed using graphs and/or photographs should be construed as applying only to the specific sample tested.

Newport Test Labs measured the Bladelius Ask's power output as 226 watts (23.5dBW) per channel with both channels driven into 8 ohms, and 415 watts (26.1dBW) per channel into 4 ohms. The Ask therefore bettered Bladelius's specification for both load impedances.

The frequency response measured by *Newport Test Labs* was extraordinarily wideband, extending from less than 1Hz to 200kHz (–1dB) and from less than 1Hz to 270kHz (–3dB). Across the audio band (and a bit beyond) it was even flatter, as you can see for yourself in Graph 7: the black trace shows the response into a standard non-inductive 8-ohm resistor and the red trace shows the frequency response into a reactive load representative of a typical two-way bass reflex loudspeaker. Both traces extend from 5Hz to 35kHz ±0.05dB. The minuscule differences between the two traces mean that the Ask's sonic signature will be the same irrespective of the loudspeakers it is driving.

Separation between the stereo channels was outstandingly good at low and midrange frequencies (101dB and 92dB respectively), although diminished somewhat at 20kHz, albeit to a still very good 68dB. Balance between the two channels was an excellent 0.036dB while the phase accuracy was exceptional across the entire audio band, being just 0.01 degrees at 20Hz, 0.05 at 1kHz and 0.99 at 20kHz.

Graph 1 shows distortion at 1kHz into 8 ohms at an output of one watt, and you can see that there is very little, with a second harmonic at –110dB (0.00031%), a third at –99dB (0.00112%), a fourth at –115dB (0.00017%) and a fifth at –112dB (0.00025%). As you have undoubtedly guessed from these figures, distortion is inaudibly low. Into 4-ohm loads (Graph 2) the result was almost identical, with the only significant difference being a very slight increase in the level of third harmonic distortion, to –95dB (0.00177%). You should note that the overall noise floor in both graphs is down at –120dB, and while there is a small amount of mains-related hum visible at the extreme left of both graphs, it is more than 100dB down. These are amazing results considering the amount of circuitry contained inside the Ask, much of it operating at very high frequencies.

Distortion at 20 watts into 8 ohms (Graph 3) is almost identical to distortion at one watt, which is an incredibly good result. The lower noise floor reveals a few additional harmonic distortion components that are now visible, but they're more than 120dB down and so constitute contributions of less than 0.0001%. When the test load resistance was halved to 4 ohms whilst maintaining a 20-watt output, distortion increased notably but not significantly. Save for the third harmonic component at –93dB (0.00223%), all seven low-order distortion components are more than 100dB down (0.001%). Once again, note the spectacularly low overall noise floors (around –130dB) and the almost complete absence of mains-related noise.

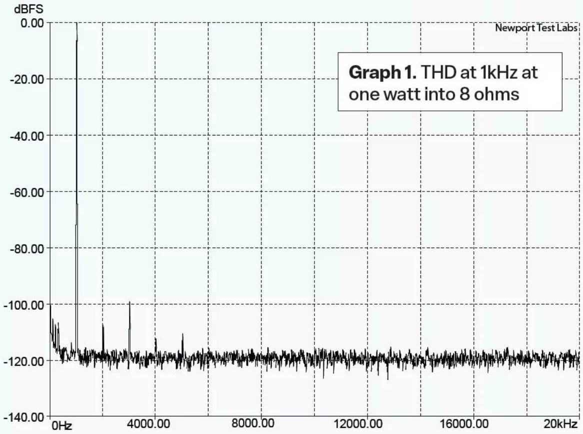
The low noise floors were not completely reflected in the overall wideband signal-to-noise measurements, with *Newport Test Labs* reporting levels of 74dB unweighted and 80dB A-weighted referenced to a one-watt output, and results of 96dB unweighted and 102dB A-weighted referenced to rated output. The 6dB differences between the unweighted and weighted figures made me suspect that some noise had crept into the measurement chain from somewhere, but why question a signal-to-noise result as good as 102dB?

Intermodulation distortion was spectacularly low, too, with just two sidebands at the one-watt output level, both at –100dB (0.001%), and only a few more (at around –110dB/0.00031%) and down close to –120dB (0.0001%) at an output of 20 watts. This is close to getting as good as it gets! The 20-watt graph shows a tiny regenerated difference signal creeping in above the noise floor at 1kHz, but it's 113dB down (0.00022%).

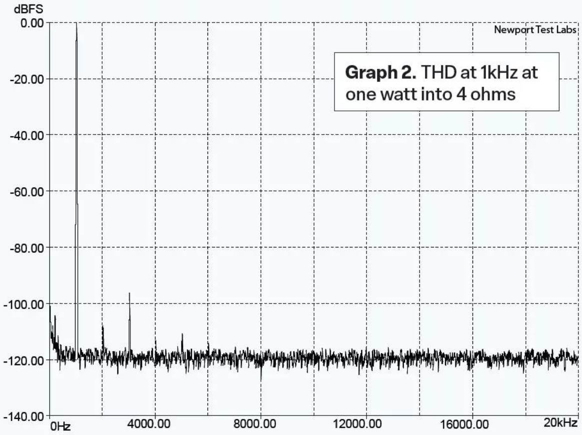
Output impedance was measured as

Bladelius ASK Integrated Amplifier/DAC/Streamer – Laboratory Test Results

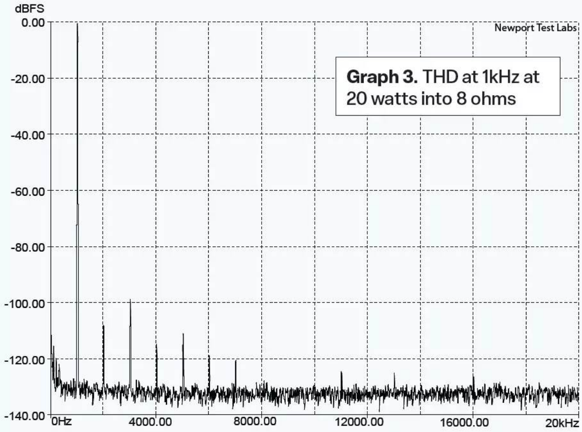
Test	Measured Result	Units/Comment
Power Output at 1kHz into 8 ohms	226 watts/channel	both channels driven
Power Output at 1kHz into 4 ohms	415 watts/channel	both channels driven
Frequency Response @ 1 watt (1)	<1Hz – 200kHz	–1dB
Frequency Response @ 1 watt (2)	<1Hz – 270kHz	–3dB
Channel Separation	101dB / 92dB / 68dB	(20Hz / 1kHz / 20kHz)
Channel Balance	0.036dB	@ 1kHz
Interchannel Phase	0.01 / 0.05 / 0.99	degrees (20Hz / 1kHz / 20kHz)
THD+N	0.012%	@ 1-watt
Signal-to-Noise Ratio (unwghted/wghted)	74dB / 80dB	dB referred to 1-watt output
Signal-to-Noise Ratio (unwghted/wghted)	96dB / 102dB	dB referred to rated output
Input Sensitivity	83mV / 1.5V	(1-watt / rated output)
Output Impedance	0.01Ω	at 1kHz
Damping Factor	800	@1kHz
Power Consumption	37.74 / 139	watts (Standby / On)
Power Factor	+0.413	
Mains Voltage Variation during test	239 – 247	Minimum – Maximum



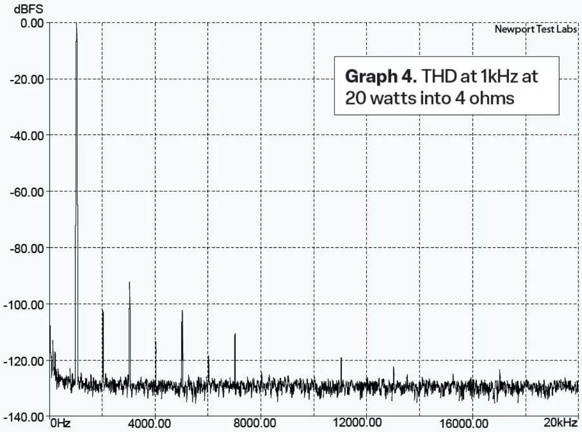
Graph 1. THD at 1kHz at one watt into 8 ohms



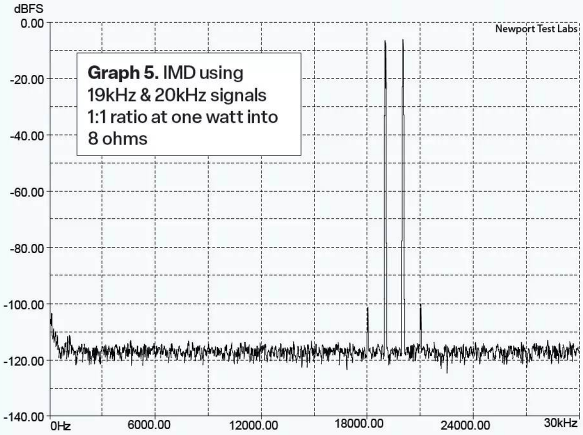
Graph 2. THD at 1kHz at one watt into 4 ohms



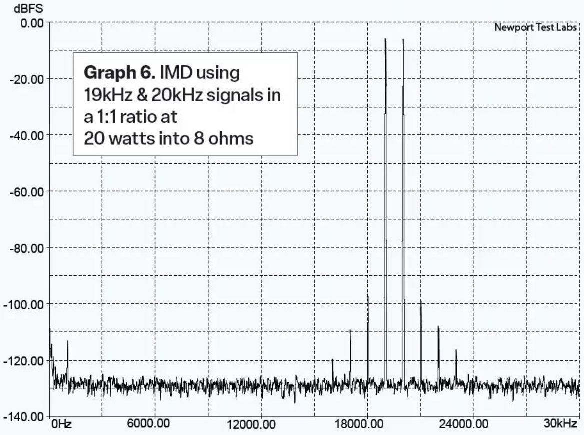
Graph 3. THD at 1kHz at 20 watts into 8 ohms



Graph 4. THD at 1kHz at 20 watts into 4 ohms



Graph 5. IMD using 19kHz & 20kHz signals 1:1 ratio at one watt into 8 ohms



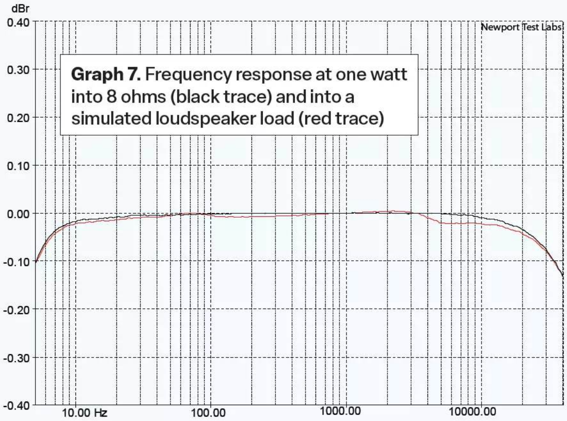
Graph 6. IMD using 19kHz & 20kHz signals in a 1:1 ratio at 20 watts into 8 ohms

0.01 ohms at 1kHz, for a damping factor of 800, which is several orders of magnitude more than is required to control the cones of even the most errant bass drivers.

Power consumption was very high, particularly in the high bias mode, where the Ask consumed 139 watts of mains power when idling. Unsurprisingly, the top of the amplifier can become very hot, so be sure to accommodate adequate ventilation at all times. It would be preferable to switch it off when you're not using it, too, rather than simply switching it to standby; it will reach operating temperature fast enough when switched on!

Overall, the Bladelius Ask exhibited excellent performance across the full gamut of tests conducted by *Newport Test Labs*.

Steve Holding



Graph 7. Frequency response at one watt into 8 ohms (black trace) and into a simulated loudspeaker load (red trace)

7 ways to MOT your speakers for free

(or very little)

Loudspeakers tend to be something of a fit-and-forget item. Once you get them home and go through the rigmarole of the initial speaker set-up, they are often just left to get on with their job. And to a large extent that is fine. Provided they aren't damaged or treated unfairly by being pushed too hard, most speakers will go on performing for years and decades to come without issue.

However, that doesn't mean that a little love and attention wouldn't go amiss. If you have had your speakers for a while, there is a fair chance that they aren't performing at their very best. Here are some things you can do to make notable improvements to their performance for free or, at worst, less money than you would likely spend on a family meal at Maccas.

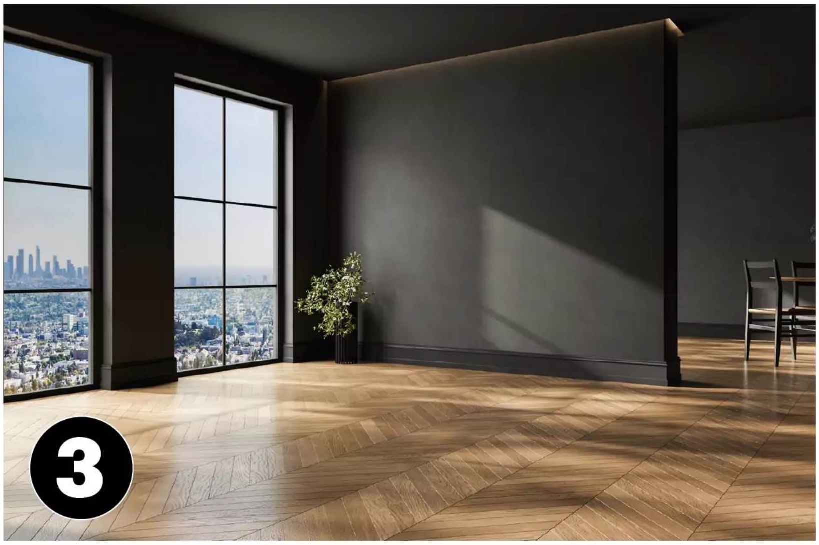
Check those spikes

Whether you have standmounts or floorstanders, there is a good chance that somewhere in support of your speakers is a set of spikes. Given the amount of vibrational energy that most speakers produce, it is no surprise that said spikes can also work loose over time. Check them all for tightness. At the same time, make sure that everything is level and that the speakers or stands aren't rocking. Even a small amount of movement can adversely affect sound quality, degrading clarity, punch and bass definition to a surprising degree.

Tighten those drive units

The tightness of the drive unit bolts is the first thing I would check on any speaker more than a few years old. Mechanical vibration generated by the drive units can cause the fixings to work loose over time. And as most speaker cabinets are made of wood, they can compress over time too.

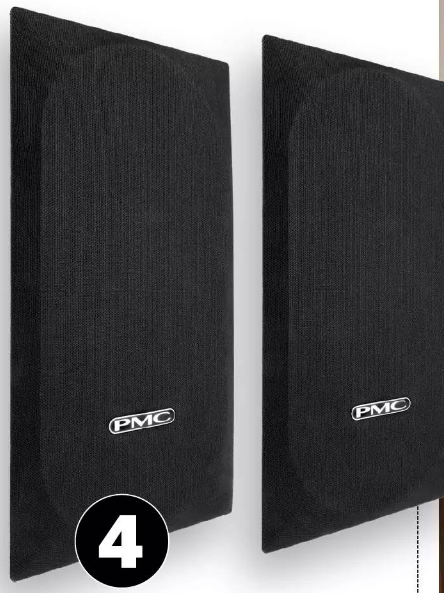
When tightening, just be careful not to damage the drive unit diaphragm. I have witnessed people be careless and put a screwdriver through a speaker cone more than once! Also, be careful not to *over*tighten them as this could distort the driver chassis or strip the threads in the front baffle. Neither is good. Just a little nip is all it needs, and the sonic gains in doing so can be significant when it comes to definition, speed and punch.



Wooden floors are lovely but...

If you have a wooden floor, either bare or covered with carpet or a rug, it could be worth putting your DIY skills to use. Spikes are designed to pierce through the carpet's woven construction and sit on the wooden floorboard below. Now, wood is a relatively soft material and the spike points can eat away at the point of contact. If the pressure across the quartet of spikes isn't even, then the stand or speaker may not sit rigidly over time.

I have had good results with inserting No.2 Pozidriv screws into the floor and then placing the spikes in the crosshairs. This helps to make firm contact and therefore minimise any speaker cabinet movement. The benefits can be heard across the board, from improved detail and agility to firmer bass reponse.



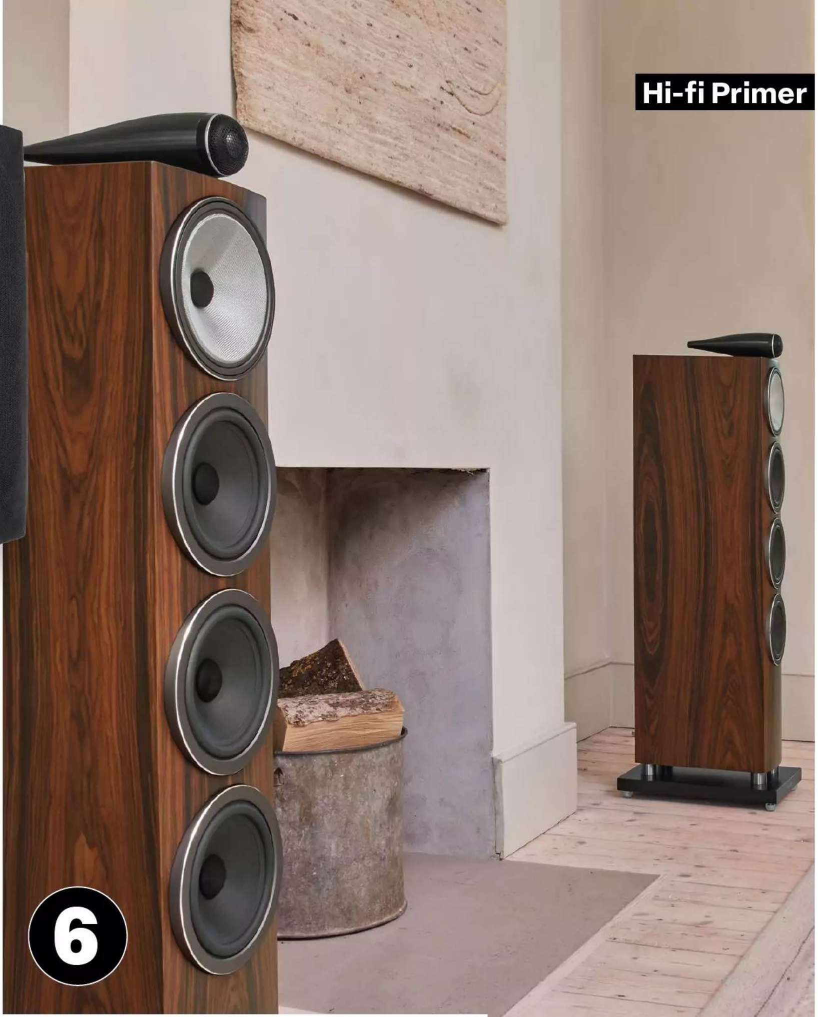
Remove those grilles

I can appreciate that some people prefer the drive units of their speakers to be covered, whether as an aesthetic preference or as a way of protecting the speakers from pets or small children, but the fact remains that the vast majority of speakers sound better with the grilles off.

Most serious loudspeaker manufacturers use acoustically transparent cloth for their grilles, so the issue tends to be the reflections and other acoustic artefacts caused by the frame of the grille. Regardless, I would recommend leaving the grilles off when you want to listen seriously — the advantages of doing so are clear.

Replace bi-wire strips with speaker cable

This is the only suggestion here that may cost you a bit of money, though if you have some old speaker cable hanging around then that won't be the case. Many speakers on the market can be bi-wired and so have two sets of terminals on each cabinet's rear. If you want to go down the single-wired route, the manufacturer generally includes metal strips to connect between those terminals so that the two positive and two negative pairs are linked. Those metal stripes don't tend to conduct well, so swapping them out for short pieces of proper speaker cable can make notable improvements to sound quality. It doesn't take long to do and, in my experience, is worth the minimal effort and cost.



Experiment with positioning

The position of speakers in a room is one of the most important factors that governs how they sound, arguably even more than the system it is connected to. Small changes in position — say, bringing them a further 10cm away from a wall, or making small changes in how they are angled — can make significant changes to the way they perform.

The speaker's proximity to a rear wall affects the amount of bass heard at the listening position: a close-to-a-wall position reinforces the low frequencies while one further out in a room reduces the effect. It also tends to improve stereo imaging, particularly in terms of depth. Angling the speakers towards the listening position helps image solidity, though can make the soundstage width narrow if you go too far. In either case, be sure to listen to them while fine-tuning to your taste.

hi-fi
AUSSIE MARVELS
PARTY STARTERS
GREAT COMPOSERS
HOT NEW HITS!
7

A left-field suggestion…

When your system is playing at a reasonable volume level, put your hand on the top panels of your speakers. If you can feel a notable amount of vibration, put a heavy book or a small pile of *Australian Hi-Fi* magazines (others work too!) on top of each speaker. This will add mass and damping to that panel, reducing its sonic output, and typically improves the height and openness of a speaker's stereo imaging. Be careful not to damage the finish on the top panel — plant pots aren't a good idea! — but anything that helps to subdue vibrations is good. I admit this isn't the neatest thing to do, but in my experience it will improve the speaker's sound in many cases.

Ketan Bharadia

8 GREAT TEST TRACKS OF 2024

Sadness As A Gift

Adrianne Lenker

Adrianne Lenker of Big Thief is six albums into her solo career, and the title of her latest, 'Bright Future', could just as credibly describe her career path as it does, intentionally and somewhat ironically, her view of the world. This second single from it feels like the perfect embodiment of her style and talent — poetic storytelling alongside heart-shattering melodies via Appalachian instrumentation. Describing it as a 'song for around the bonfire' perhaps undermines its creativity as a breakup song, but its rustic feel and musical joviality are certainly infectious. That the album was recorded and mixed entirely on analogue tape will play into the hands of tonally warm kit, while a system's midrange expression will be thrust under the spotlight as her raw vocal and utterly devastating violin accompaniment run the show.

Dark Matter

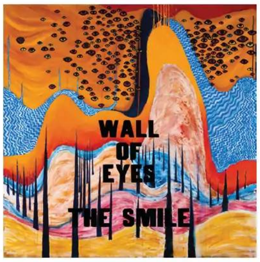
Pearl Jam

PEARL JAM
DARK MATTER

Pulled straight from the Pearl Jam folder marked "loud guitars, louder drums", this is a hard-edged workout that sits on the more anthemic, extroverted end of the group's sonic spectrum. Think less *Jeremy* and more *Even Flow* or *Not For You*, Pearl Jam fans. It's a great test of how well a system can manage weight, authority and organisation, with the opening drum sequence offering the ideal chance to see what a decent (or not-so-decent) system can do when presented with brutal drum fills before massive, punchy guitar chords rampage into the mix. The test is a simple one: do you feel enough adrenaline to take on an Olympic decathlon? Yes? Pass. Anything less than that? Fail.

Teleharmonic

The Smile



Less than two years after their acclaimed debut, we already have a follow-up from Radiohead's Thom Yorke and Jonny Greenwood and Sons of Kemet drummer Tom Skinner — and boy does it deliver. *Bending Hectic* is one of the most enthralling tracks on 'Wall Of Eyes', but *Teleharmonic* is ideal test track fodder, with droning synth ambience (classic Yorke!) and an atmospheric vocal metamorphosising into a grander, yet resolutely brooding, palette of progressive strings, wistfully haunting elements led by a flute, and increasingly frenetic percussion with a wall of shimmering cymbals. It's a dense but at the same time disciplined arrangement that will thrive in a system that highly regards spaciousness, depth and dimension as well as the organisation necessary to keep it all easily digestible.

Right Back To It

Waxahatchee & MJ Lenderman

Alt-country at its most wistful, picking up where 2020's 'Saint Cloud' left off. The warm-toast-and-honey harmony between a lilting Katie Crutchfield and mellow Jake 'MJ' Lenderman (who incidentally is touring Australia in late-March), together with their acoustic strumming (Crutchfield) and gentle electric (Lenderman), bely a song brimming with depth and emotion. Indeed, this duet may well have been 2024's most beautiful contribution to the folk-indie scene, not to mention one of the most enjoyable and straightforward tests of a system's midrange insight. Waxahatchee fans will by now know to expect a full and soothing texture from Crutchfield's delivery; the two should sit close but shouldn't bleed into one another or drop their individual inflections; and never should that finger-picked banjo in the right channel lose its purpose beside the front-and-centre vocal and electric solos. The ever-present bassline should distinctly anchor and gently propel but not dominate or feel alienated from the melody.

Bolo Na

Arooj Aftab

With her music existing somewhere and everywhere between Western and Hindustani classical music, minimalism, poetry and folky-jazz fusions, and predominantly sung in the Urdu language, the Grammy-winning Pakistan-American singer-songwriter is nothing if not visionary. The highlight of 'In Night Reign', a menacing, grubby bassline with statement-making, marching band-esque snare-drum brushes serve as the grooving undercurrent for her reinterpretation of a traditional Urdu love song (which is actually less love song and more a cry out against the biggest systematic flaws in today's world), as spoken-word artist Moor Mother and vibraphonist Joel Ross help the haunting, meditative piece reach a provocative impact that runs through much of the album. What begins as a brooding percussion beneath Aftab's floating vocal expands into increasingly edgy storytelling and atmosphere-enhancing guitar, drums and piano that swirl beautifully around the soundstage to create something unique and, above all, memorable. Openness, headroom, bass agility, midrange transparency — it's all required.

Brenda & Diane

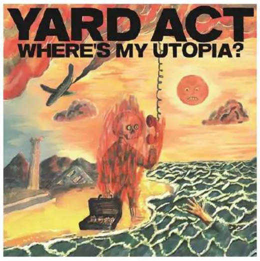
Young Jesus

Young Jesus
The Fool

You never know quite what you're going to get from the adventurous Young Jesus (aka singer-songwriter John Rossiter), who seems to have poked around in every nook and cranny of the indie-rock genre for what it feels like has been an ever-transitioning 12 years. His latest release, 'The Fool', actually sees the sound-shifter return to his musical roots of familiar folk-rock, although arguably more interesting than the music itself are the wild, seemingly personal stories Rossiter tells. That of lead single *Brenda & Diane* is, as they go, relatively relatable — about a guy who reluctantly sits down with "a couple old ladies" who are gambling on the run and turn out to have complex lives that humble him. The pop ballad has a lot for your system to chew on — a peppy beat and guitar bassline that never sit still, piano chords that should defiantly punch out at you, his passionate, attacking vocal that parades both ends of his extreme range, and a musical climax that brings depth and fun via strings and synths. Above all, the track's propulsion and pace should come across.

Dream Job

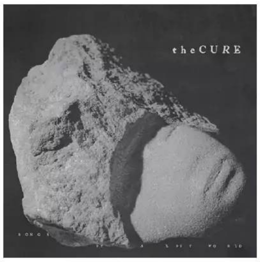
Yard Act



A single from the northern-English band's latest record, 'Where's My Utopia?', which was met at Glastonbury to rapturous cheers, *Dream Job* is a jaunty melody with infectious hooks melded with a wry undertone to the lyrics that deal with the reality of working in the music industry today. On a less-than-capable system, this track could easily become one-note, cacophonous and messy. A great system, however, will reveal the layers of instruments and various backing vocals in an organised, three-dimensional soundstage that still works in perfect cohesion with the sardonic lead vocals. The taut bassline, scuzzy, electrifying guitar riff, synth highlights and jubilant chants of British slang (Ace! Mint! Boss! Dece!) should all come through with high energy, triumphant dynamics and snappy timing, all culminating in the thudding impact of that very abrupt end.

And Nothing is Forever

The Cure



The wait for last year's most anticipated release was finally over on 1st November, and it wouldn't have taken many The Cure fans much longer than 15 minutes after their morning alarm had gone off that day to fall in love with the second track on 'Songs of the Lost World', an achingly beautiful ballad, upon first listen. Its themes of love, loss and their often painful transience are no more so encapsulated than by the opening lines of Smith's heartfelt plea — 'Promise you'll be with me in the end / Say we'll be together, that you won't forget — but as with the first single *Alone* — and at least three others on the album, for that matter — the sentiment manifests long before he opens his mouth. Soaring strings and a wistful piano melody see the song take flight from its opening bars, doing some major emotional heavy lifting early on and demanding utmost dynamic expression from your system, while the introduction of distorted guitars and then the bar-raising percussion add to the impassioned and dynamically elastic delivery. The lush and dense soundscopes The Cure has painted with increasingly self-assured strokes for the best part of five decades arguably culminates here, so pray that your system has the organisation, space and scale to unlock its magic.

Manic Street Preachers

Critical Thinking

COLUMBIA

MANIC
STREET
PREACHERS
CRITICAL
THINKING_

So which Manic Street Preachers do we get this time? Is it the widescreen Manics, with their terrace anthems and technicolour bleakness? Or is it the post-punk Manics, all terse, screaming riffs, balaclavas and slogans like a very cold Clash? The answer with 'Critical Thinking' is neither. With this new record they're not pretending to be Magazine or Guns N' Roses. They're not even pretending to be themselves.

This is a much more raw Manic Street Preachers, fuelled by despair as usual but also simplicity. The songs are rock throughout, with big, crunchy riffs by James Dean Bradfield and small-doubt-filled lyrics by Nicky Wire. There are also vocals by Wire, most notably on the Robocop-funk title track and the brilliant closing track *One Man Militia*, where over drums reminiscent of the Sex Pistols' *No Fun* Wire lists his personal reasons to be uncheerful: 'I don't know what I am for but I know what I'm against' and 'I can't breathe when I hate this much'.

There are proper drivetime punk anthems, naturally, like recent single *Decline And Fall*, which shares its sense of the epic with The Mighty Wah!, and there are songs with classically Manics titles, like *Brush Strokes Of Reunion* — which sadly doesn't feature Karl Howman as a painter and decorator. *People Ruin Paintings* is stadium jazz, while *Being Baptised* is a pop song, almost. Throughout, passion and doubt run side by side, most notably on the oddly plaintive *Dear Stephen*, a song that basically asks Morrissey to stop being a twat.

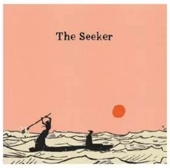
People who like to compare things to other things will note that this album shares some of its rawness with 'Postcards from a Young Man', and its affection for rock with 'Gold Against the Soul', but really it doesn't sound like any Manics album. It lacks the smoothness of their recent retro-Euro albums, and tempers the fury with a vein of melancholy.

The band's three founding members are in their mid-50s now, a time when, for most artists, being your own archive beckons. At this stage — 30-odd years and 15 albums — the Manic Street Preachers should be playing heritage rock shows and releasing albums to fill up the time between greatest-hits tours. 'Critical Thinking' shows that with the Manics, rage never sleeps.

Rachel Fuller & Pete Townshend

The Seeker

4WORDHOUSE



A bereft young dreamer sets out to find spiritual answers. It's Pete Townshend's theme akin to Stephen King's umpteen books about writers with no ideas going somewhere haunted. Arguably, the original Tommy or Jimmy The Mod was Siddhartha Gautama, or the Buddha, and over a double album and an illustrated book by Townshend's composer wife Rachel Fuller here retells Herman Hesse's 1922 story of the troubled young seeker casting off material possessions and venturing into the world on a journey of self-discovery through poverty, wealth, love, desperation and ultimately wisdom. The sonic setting, though flavoured with exotic Eastern tones and rhythms, is very much the theatrical orchestral extravaganza. The late Christopher Plummer narrates, South African artist Nakhane plays Siddhartha, and Emeli Sandé is fittingly Broadway as the voice of a river. But the melodies on tracks such as *Awakening, Bargain* and the gorgeous *Father And Son* smack of Who hooks, while the appearances of Townshend as The Ferryman and Elton John as a wealthy merchant on *Dice* hint at an operatic Tommy. There's even an orchestral take on The Who's questing 70s tune *The Seeker*.

Greg Koch

Blues

CREATE

GREG KOCH
BLUES

Wisconsin guitarist Greg Koch has a penchant for the same blues that inspired the Great British guitarist elite of the '60s and more recently Joe Bonamassa, Muddy Waters, Freddie King and the rest. But this album is no mere homage to either the originals or the disciples. Koch has clearly studied this sub-section of the blues carefully, and he approaches it with his own sound and style. His tone is thinner than most, but it is clear and piercing once it's cranked up. His style relies on a spontaneity born of self-confidence. His playing on *The Stumble* has even more zest than Peter Green's version with John Mayall. And it's doubtful whether Clapton could still summon up the sting that Koch gets on *Stepping Out*. He also shows that he can see beyond the Chicago skyline, with covers of Delbert McClinton's *Standing On Shakey Ground* and Tower Of Power's *Don't Change Horses*.

Franz Ferdinand

The Human Fear

DOMINO

FRANZ FERDINAND
THE HUMAN FEAR

Transcending their 2000s origins thanks to a solid dedication to the 'art' part of art-pop, Glasgow's strutting sophisticates Franz Ferdinand arrive at album six — seven years after the tone-shifting title track to 2018's 'Always Ascending' melted indie-rock's mind — in inquisitive style. That the record examines our reactions to human fears such as death and loneliness only seems to bolster its fearlessness. Opener *Audacious* skips cheerfully between itchy new wave and anthemic Bowie glam, the bombastic pop *Tell Me I Should Go* resembles a steam-powered Beach Boys, and *Cats* celebrates FF's roots with a proud Celtic groove, underpinning a Paul Simon-esque tune that could be called '50 Ways To Deep-Fry Your Lover'. But it's the album's embrace of retro-futurist video arcade electronica on *The Doctor* and *Hooked*, verging at times on a lascivious indie Prodigy, that keeps Franz Ferdinand surprising 20 years in.

Rival Sons

Great Western Valkyrie

EARACHE

Like no other genre, rock is uniquely tied to legacy and what came before, which is sometimes, fairly or unfairly, why modern bands fall short of the perfect appraisal. But the moment *Electric Man* kicks in, with Scott Holiday's fuzz-soaked guitars and Jay Buchanan's mesmeric voice (half yodelling, half singing) surging through the speakers, it was clear that Rival Sons had evolved into serious players; now they had unshakeable aura as well as songs. *Secret*'s guttural rhythm and blues remain a prominent setlist fixture. *Play The Fool* struts forward with cock-of-the-walk swagger. *Belle Starr* and *Where I've Been* — one of several great Sons ballads — deliver the enthralling cinematic soundscapes alluded to in the album's title. For its first time on vinyl, the anniversary goodies come in the form of cracking bonus tracks *Too Much Love* and *My Nature*, confirming this new release as a must-buy. That 'Great Western Valkyrie' could be the apex in a catalogue that seldom dips below superb is a testament to the towering benchmark that Rival Sons have set for contemporary rock. Still electric — yes, it is.

continues on page 82 ▸

esoterica

37.5
SACD
HALCRO Equinox Preamplifier
CONTROL

REVIEWED

HI-FI FROM THE FUTURE

Focal's high-end system within two luxury towers

REVIEWED

Equinox joins Eclipse

A new preamp partner for Halcro's mighty power amps

Focal Diva Utopia

Active Speaker System

+
- Excellent clarity, resolution and agility
- Impressive bass definition and punch
- Adventurous styling

−
- Wireless inter-speaker link is limited to 24-bit/96kHz
- Remote could be classier

RRP **$59,999**

The template for high-end audio feels like it is set in stone, and it has been like that for the best part of five decades. In this arena, ‘separates’ rule and every piece in the audio chain is split as far as possible to the point where it isn’t unusual to have systems where the box count reaches double figures.

That’s not necessarily a problem for purist audiophiles, but there remain many people who want excellent sound yet prefer it wrapped in a neater, less cluttered and more stylish package. Focal’s Diva Utopia could well be the answer for them.

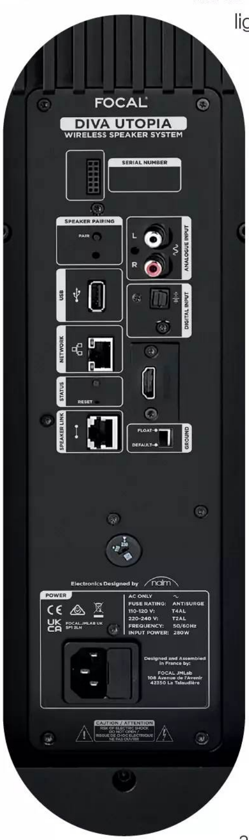
Streaming systems that take the form of a pair of stereo speakers are hardly new. KEF has made hay with its various LSX, LS50 and LS60 Wireless products, while the likes of Bowers & Wilkins, Dali, JBL and Triangle have also contributed some fine efforts. However, none of these products sit at what would be considered the high-end of the market. At this level, Focal’s Diva Utopia is almost unique in packing a streaming module, digital-to-analogue converter, amplifiers and drive units all into a stereo speaker format, though some Goldmund and Meridian products have come close to such integration.

The Diva Utopia are described as wireless, and they are mostly, though no company has come up with a way of getting rid of the mains cables that each of the two speakers requires. Also, if you want to improve on the 24-bit/96kHz wireless transmission limit between these speakers, using the supplied cable to link them raises that to 24-bit/192kHz. Recordings of higher resolutions — these speakers will accept up to 24-bit/384kHz PCM and DSD128 files — are downsampled in this design and DSD files are converted to PCM. Is that important? It probably is, particularly given the price point, but most people aren’t likely to have many recordings at these higher sampling rates. Ultimately, the Diva Utopia can be given some leeway to impress with its sonic performance.

DESIGN & BUILD

Sensibly and unsurprisingly, the Focal’s electronics are designed by sister company Naim. That’s a good start given the British-based company’s excellent track record in streaming and amplification products. The UPnP streaming platform is as well-equipped as you would expect. It can stream music across a home network from a NAS unit and is compatible with all the usual streaming platforms — Spotify Connect, Tidal Connect and Qobuz — while protocols such as AirPlay 2 and Google Cast are also onboard. Bluetooth is on the menu in aptX Adaptive guise too.

There is plenty of power on tap. A 250-watt Class A/B power amplifier is dedicated to the four 16.5cm ‘W’ sandwich cone bass units (arranged in a push/pull configuration in each speaker), while both the 16.5cm ‘W’ midrange and 27mm inverted beryllium dome tweeter are driven by dedicated 75-watt modules. That’s 400 watts per enclosure, which should be enough to get to party levels in some pretty large spaces. While the power amplifier circuitry isn’t lifted directly from a specific Naim product, the design is closely related to those used in the brand’s highly-rated units. That quartet of bass drivers are tuned by a downward-firing port that exits onto the substantial sculptured aluminium plinth.



The ‘W’ cone is a long-running Focal technology that features a foam core between two glass fibre layers to give a composite structure that is claimed to combine lightness with rigidity and good damping. That blend of qualities qualifies as the ‘Holy Grail’ as far as cone behaviour is concerned. The inverted dome tweeter is another one of Focal’s trademark technologies, and when the diaphragm is made of beryllium (claimed to be rigid, light and with good damping — notice a pattern?), the result is normally as sweet and detailed as they come.

CONNECTIVITY

There is a decent amount of physical connectivity onboard, with the Diva Utopia having an HDMI eARC and optical alongside stereo line-level RCAs and a USB (Type A). There is no phono stage, though at this level a good-quality outboard unit is likely to be the better choice if vinyl replay is a priority. All these connections are found on only one speaker, which can be configured to be the left or right channel through the dedicated Focal/Naim companion app according to your requirements.

This app is one of the better ones out there, delivering a reasonably slick and stable user experience. For the Diva Utopia, it adds the option of room correction, which works pretty well. The user has to take some basic measurements such as the distance from the speakers to the wall behind them and

then to the side walls on each side. Once that's done, there is a series of listening tests that ask you to balance the volume between different frequencies of test tones in steps from deep bass upwards.

While not as simple and fuss-free as a microphone-based system or as in-depth as Linn's more sophisticated Space Optimisation software, the resulting equalisation is relatively subtle and positive. In the well-behaved 3 x 7 x 5m (HWD) test room these speakers are being reviewed in, using it results in a cleaner, better focused and slightly more precise presentation. If your room has more obvious issues then it is likely worth implementing. However, do note that activating the equalised room profile did, in this setting, adversely affect the Diva's low-level dynamic expression and rhythmic drive to a degree where ultimately the EQ was left off for the majority of listening time. Still, it's great that Focal offers the option.

There is a standard remote included with the speakers. This looks to be based on the same design as the tool that comes with Naim's more premium products, but here it is simplified to cover just the basic operations such as power on/off, input selection and volume level. While it is nice not to have to revert to a phone or tablet to perform such functions, it is a shame that the remote casing feels pretty cheap and insubstantial compared to the rest of the nicely styled and no-holds-barred Diva Utopia package.

Focal's bravery with the design of the speaker system itself is admirable. Most others would have used a rectangular MDF box, albeit clothed in some luxurious wooden veneer, but here we have a high-density polymer enclosure that's strategically reinforced where needed and designed with curves and angles that give it a wonderfully modern and stylish appearance. The structure feels solid, damped and dense, which helps boost the speaker's aura of quality. The standard grey felt-like finish is lovely and note that the thick material can be removed quite easily to open up the option of customising to tastes. At the moment there is only one option, but don't be surprised if more are offered over time.

At this price level, it would be fair to expect the selling dealer to set everything up, but if you do end up doing the job for yourself it is best to get a friend to help you remove these 64kg boxes from their packaging. But, fair play to Focal, it has put a good amount of thought into the packaging, supplying useful instructions and a substantial wooden plank in the box to make it easy to wheel the speakers out. And you really do wheel them, as the

speakers come fitted with four casters to allow them to be manoeuvred into place easily. Once you have finalised their exact placement in the listening room, you can add spikes. Using spikes adds a degree of precision and clarity to the sound that makes them essential if you want to get the best out of the Diva Utopia.

PERFORMANCE

In the same vein, hardwiring the speakers to each other rather than opting for the wireless connection is recommendable too. Not because the resolution limit is higher, though that is handy to have, but because even with CD-spec music the wired link delivers a slightly more dynamic and expressive performance. True, going wireless is neater and proves stable in use, but it seems a shame to hold back the performance when it is so avoidable.

The Diva ended up around a metre from the test room's back wall and well away from the sides. Even without the speakers being equalised, that positioning facilitated an even tonal balance, plenty of bass authority and impressively broad stereo imaging. Once the toe-in towards the listening position was optimised, the Diva's soundstaging was crisp and well-defined, delivering a fine impression of depth and scale. Individual instruments were locked in place and refused to blur even when the music became demanding.

It was hard not to be impressed with the authority and power on offer as the speakers played Beethoven's Ninth Symphony. The Diva Utopia delivers a huge sound that impressed not only in the way that it reproduced a wonderfully wide dynamic envelope but also in the way it rendered lows with such power, grip and agility. That quartet of bass drivers per cabinet can really pump out huge amounts of bass effortlessly. This is a sound brimming with control and composure, where a multitude of instrument strands can be tracked without issue and the sense of organisation is reassuring. As the music ebbed and flowed, the Diva had no trouble following suit, uncovering plenty of detail and conveying it with terrific precision. The leading edges of notes were as crisp as you like but had no sense of unnatural hardness or being forced.

These Focals can play loud too, and stay composed with it. There's no doubt they are capable of delivering high volume levels in large rooms without straining. It helps that they are about as refined as such speakers get. There is no excessive brightness or aggression here, just a smooth and cultured balance that refuses to make a meal of things, even with poor recordings. This is a valuable trait that few high-end products share.

The Diva could let loose a little more. With Florence And the Machine's *You've Got The Love,* the Focals had a civilising influence over the music. This system calmed the rough edges of the sound, making it an easier listen but also losing some of the vibrant energy of the recording in the process. This isn't enough to stop the song from being enjoyable, but there was just that feeling that there should be a little more excitement on offer.

Elsewhere there isn't much to complain about. It was a wonderfully clean and clear presentation, with Florence Welch's powerful vocals coming through with conviction. Instruments and voices were rendered with convincing texture and a good degree of natural warmth. It was a tidy and controlled presentation with a decent if not explosive sense of rhythmic drive. Thankfully, the Diva's performance stays pleasingly consistent whether going via the built-in streaming module, the stereo analogue input or the optical connection. Indeed, it's rare to come across a product where the performance of each of these inputs is so balanced.

CONCLUSION

Overall, there is much to like and admire in Focal's Diva Utopia. This system truly manages to deliver a proper high-end sound from a neat two-speaker form factor. Despite some slight misgivings about the sanitising effect it has on the music, when it comes to clarity, precision and bass performance it has little to fear from combined separate alternatives at the same price. As such it has to be counted as a success.

SPECS & CONTACT

Design: Three-way bass-reflex active wireless
Drivers: 4 x 'W' 16.5cm push-push configuration woofer;'W' 16.5cm with TMD surround and NIC motor midrange; IAL2 27mm pure beryllium 'M'-shaped inverted dome tweeter
Frequency response: 30Hz-40 kHz
Amplification: LF: 250W Class A/B; MF: 75W Class A/B; HF: 75W Class A/B
Inputs: HDMI eARC, optical, UBS Type-A, RCA, Ethernet, Wi-Fi 6, Bluetooth aptX Adaptive
Dimensions (HWD): 121 x 42 x 56cm
Weight: 64kg

Distributor: Westan
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E: SalesVIC@westan.com.au
W: www.westan.com.au

-37.5
dB
SACD
Phase: IN
HALCRO
HALCRO Equinox Preamplifier
CONTROL
HALCRO Equinox Preamplifier

Halcro Equinox

Preamplifier

- Unmatched sound quality
- Phase inversion outputs
- Incredibly high performance

- No headphone output or phono input

RRP **$66,990**

Halcro should need no introduction to those "skilled in the art" of audio because it is one of the most famous names in hi-fi history. Indeed, for a time, it was *the* most famous name. For the uninitiated, or readers for whom Halcro is just a mere memory, the company was named after its founder, Dr Bruce Halcro Candy, who started building amplifiers as a teenager, aiming to combine his technical skills and love of music to build the world's 'ultimate' amplifier. In 2001 he told *Stereophile* magazine's Jon Iverson that his lifelong passion for music and his ability to evaluate audio components were informed by his rare ability to hear frequencies so high (far above 20kHz) that they are inaudible to most other people.

Candy mothballed Halcro in 2011 after being headhunted by South Australian company Minelab, where his expertise subsequently resulted in him winning the Clunies Ross Award from the Australian Academy of Technological Sciences and Engineering (ATSE). Minelab proudly describes him as — deep breath — "one of the world's leading experts for the development of high performance hand-held metal detectors whose work will benefit the industry for decades to come, including de-miners who are lessening the landmine menace worldwide, gold prospectors who have generated wealth both here in Australia and worldwide and the archaeological community who benefit from the many finds by detectorists using his technologies."

Halcro re-emerged as an active

amplifier manufacturer in 2015 courtesy of a collaboration between Lance Hewitt, formerly Candy's lead engineer; Mike Kirkham of Magenta Audio, an Australian audio importer, retailer and distributor; and Dr Peter Foster, who holds a PhD in Physics from the University of Adelaide and was formerly a Senior Laser Physicist at Norseld Pty. Ltd and a Guest Scientist at the Department of Metallic Materials, University of Bayreuth, Germany. The trio purchased Halcro's assets from Candy's company (BHC Consulting), including its brand name, portfolio of audio patents, tooling and a batch of mothballed stock.

Despite Candy no longer being involved, Kirkham says that the DNA inside the Equinox preamplifier on test here is derived directly from Candy's patented designs. For example, it uses the same relay-switched, low-noise resistor network in the gain stage that was used in Halcro's classic dm10 preamplifier, while the active gain stages are based on a completely new amplifier topology developed for the input stage of Halcro's Eclipse power amplifier, the stereo version of which (there is also a mono model) I reviewed a few *Australian Hi-Fi* issues ago. "All active components are configured in such a way as to ensure that they are always operating at the optimum point in the I-V curve, resulting in negligible distortion, high slew rate, fast transient response and extreme linearity," says Hewitt. "This is one of the signature, proprietary approaches that separates Halcro from all other amplifier designs."

Another of Halcro's 'signature' design approaches is the separation of the power supply circuitry from the audio circuitry through the use of separate enclosures. This was a feature of the original dm58 power amp of the early noughties that carried over to the current generation of Eclipse models and, now, the Equinox. As with that dm58, the power supply here is a switch-mode design, with the circuit switching at well over 100kHz to remove it far above the audio band. "We use custom transformers and substantial filtering to ensure very clean, high-current delivery to the amplifier chassis," explains Hewitt.

When I asked Kirkham about the impetus behind developing the Equinox, he said: "The goal was to create an amplifier that would be transparent, able to peer into the music and resolve the finest detail while presenting everything in a very natural way. Months were spent in component selection, and carefully voicing components in a painstaking series of double-blind listening tests." Answering my question about why the preamp didn't take its external design cues from the original dm8 and dm10 preamps, or even the Eclipse power amps, Kirkham said: "The Equinox represents a bridge between the iconic, signature Halcro designs to date and the design language of the future."

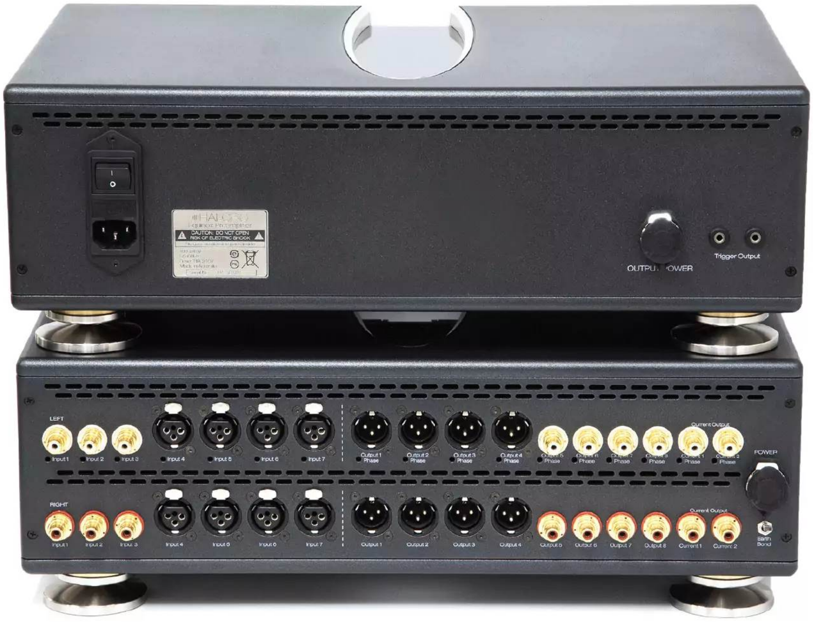
Strangely enough, while everyone at Halcro is completely onboard with the rationale behind the 'two-box' design of the Equinox, I detected a little *frisson* about a preferred name for each box, though the official consensus is that one is called 'Control' and the other 'Audio'.

THE EQUIPMENT

When I initially placed the Audio box on my equipment rack, its chassis rocked quite violently. "Don't tell me the courier has dropped it and warped the chassis!" I thought to myself. However, upon upending the chassis I discovered that the four high-gloss chromed, conically shaped feet are adjustable, and for some reason one of them was almost fully extended. It was, therefore, a simple matter of winding it back to its proper place to ensure stability. These feet do more than just enable levelling, though. According to Kirkham they also "minimise structural resonances and reduce interference with delicate audio signals".

> "Represents a bridge between the iconic Halcro designs to date and the design language of the future"

Upending the chassis revealed a small, white, plastic multi-way connector I wouldn't have otherwise noticed, and which doesn't appear to be mentioned in the company's literature, although I didn't have much to go on since my review unit arrived without a manual. It transpired that it allows the internal software to be upgraded, potentially to change how the Equinox operates. When I asked for an example of what this could mean, Kirkham said that the preamp's volume control currently enables levels to be adjusted in 0.5dB increments, meaning there are 160 possible settings that would require *many* rotations to go through them all. If they get feedback from owners that this is several turns too many and they would prefer 1.0dB increments, this could then be changed. Also on the Audio box's undersection is a small plate



I could also hear the phasing effects more clearly via the Equinox than any other preamp in recent memory

that reads "Made in Australia," so the company is not outsourcing production to China or South East Asia, as many other high-end manufacturers now do.

The Equinox's two boxes are linked by a short umbilical cord that enables either side-by-side (which I preferred) or stack positioning. If you prefer the latter, it's best the Control is topmost as, although the 240V power cable connects to it, the signal cables connect to the Audio, so you will have fewer cables hanging in midair. To protect the superbly finished top surface of the Audio chassis, as well as your equipment rack, during this process, Halcro supplies eight protective isolating pucks rather than the usual four.

As for my preference for a side-by-side arrangement, it has nothing to do with sound quality but with how it looks. Quite simply, I didn't like the boxes' 'V'-shaped displays being vertically aligned. Halcro says both units are so well-shielded that it really doesn't matter how you arrange them: performance will remain the same.

When the Control unit powers on, the LED at the centre of its press-button power switch glows red. When pressed, it flashes red eight times, after which the LED extinguishes and the main 'V-shaped', black-and-white, high-resolution LCD touchscreen briefly flashes up the words 'Equinox Preamplifier,' together with the software version loaded (Rev 1.3.0 on my sample). It then shows (from the top downwards) the output level, channel balance, active input, phase, and a three-arrow logo that, if pressed, allows you to select your desired active output — and wow, do you have a wide selection to choose from!

But before revealing the numerous outputs available, I should make a small note about the display: some of the Equinox images on the internet show it as being light and dark blue, but the cameras (or phones, as is more likely the case) taken them have been 'tricked' into adding such blue-ish tinges; the display is indeed black and white.

There are four balanced outputs (gold-plated XLR) and four unbalanced outputs (gold-plated RCA) that can be configured to be driven 'in phase' or with 'inverted phase'. This allows the Equinox to directly drive two sets of power amplifiers in bridged mode from each of the balanced and unbalanced outputs. Given that the Equinox will most likely be paired with a Halcro power amplifier — the Eclipse Stereo (rated at 180 watts per channel into eight ohms, and 350 watts into four ohms) or a pair of Eclipse Monos (300W into eight ohms and 550W into four) — which would surely provide more than enough power for anyone, I questioned Kirkham about the likelihood of any Halcro customers doing this. "You'd be amazed by how many people are already using Halcros in bridged mode," he said. "Just get on the forums and see for yourself; they're raving about the benefits of the increased power output and the various other sonic attributes of bridged mode operation."

In addition to the conventional XLR outputs is an additional pair of current-loop ones for each channel — a very rare option in audio — that can also be phase-inverted to facilitate the bridged operation of a pair of amps. "Current-loop interconnects are highly immune to environmental RF noise and may offer significant improvements in noisy environments," says Hewitt.

Halcro has also supplied a plethora of inputs — seven in total, in fact. Three are unbalanced (gold-plated RCA) and four are balanced (gold-plated XLR). You can choose to have these displayed on the front panel as Input 1, Input 2 etc, or you can allocate each one a name from a pre-programmed selection — CD, DAC, DAT, HT B/P, Phono, SACD, Stream and Tuner. This is all very neat, though I should clarify that, despite the naming option, the Equinox does not have a phono input. If you wish to connect a turntable, you'll need an external phono stage.

Balance between the two stereo channels is completely adjustable, which is useful for compensating for a channel imbalance in one of your source components (phono cartridges almost always have a higher output voltage in one channel than the other), or if one of your speakers is closer to your listening position than the other or is getting additional help from reflections from a nearby wall or piece of furniture.

Whatever volume and balance setting you set for each input is stored in memory for recall whenever you switch from one to another, so if your various sources have different output voltages, as is almost always the case, this ensures the volume coming out of your loudspeakers will be consistent no matter which source is in use.

For reasons best known to Halcro, it has used various methods for remote triggering at different times in the past, so the Equinox features two remote trigger modes — 'Level' (suitable for the Eclipse, dm38 and dm88) and 'Pulse' (for the dm58, dm68 and dm78). Between the two you can use the Equinox to trigger components from any manufacturer.

The Equinox is currently available only in Halcro's matte grey powder-coated finish, which is reflected in the price quoted at the top of this review, but it will soon also be purchasable in the company's 'Signature' hand-painted finish in your choice of colour. Whichever external coating you opt for will be applied to a chassis machined from solid, 16mm-thick aluminium and internally braced to eliminate resonances.

IN USE & LISTENING SESSIONS

Volume can be adjusted from -60dB to +20dB in 0.5dB steps. Doing this using the Control unit's rotary dial takes eight full rotations to get from the lowest setting to the highest, during which a relay inside the unit clicks very loudly. This adjustment method almost gave me a repetitive strain injury! Luckily, there's a much quicker alternative: the rotary knob on the remote control. Indeed, you read that correctly: Halcro's remote features a full-sized volume dial. I believe this is an industry first; I've certainly never seen it before. It works fabulously well, although visually it is bound to divide owners.

Although the remote certainly allows for faster adjustment, that the on-unit dial requires so many turns to go from minimum to maximum isn't actually really an issue. After all, once you have set your preferred listening level, you'll only need to rotate the control a little to the left or the right to make minor adjustments, and of course your preferred volume (and balance) settings are automatically stored for each input, so most of the time you won't need to make adjustments at all. Plus, Halcro may elect to change this via a future software update. Conveniently, you can easily mute the Equinox by pressing the 'Control' button on either the front panel or the remote.

For my first listen, how could I not play Billie Eilish's 'Hit Me Hard and Soft' (despite the title's political incorrectness in these turbulent times, though she did release it before the most recent revelations)? The deeply personal opener (*Skinny*) was delivered with all of its studio lushness by the Equinox, hardly preparing you for what is possibly the album highlight, *Lunch*, which follows. The synth-pop is positively palpable via the Halcro and I could hear the perfect focus of sounds centre-stage as well as the completeness of the left-right channel separation of those sounds only in one or the other. I could also hear the phasing effects on *Chihiro* more clearly via the Equinox than any other preamp in recent memory. This experience made me wish the Equinox had been fitted with a headphone amplifier and output — but maybe that's just me. The consistent precision of PRAT (pace, rhythm and timing) on *Birds of a Feather* is exceptional, and just listen to the depth of the bass on *Bittersuite* after that opening blast of vintage synthesiser sound. The Equinox also revealed the whispered numbers in the close-out to *The Diner* more clearly than I've previously heard… but I'm still not game to call them!

When it comes to break-up albums, they really don't come any better than Ariana Grande's 'Eternal Sunshine' (Adele's '30' aside, that is). Her lyrics are spot-on across every track while her vocals are also superb throughout. I just can't understand how music journalist Michael Cragg reckons Grande has "a voice that could strip wallpaper," unless I have missed the point he's trying to make or he isn't listening via a Halcro set-up (the latter very likely!) The title track (yes, she was reportedly inspired by Michel Gondry's fantastic film 'Eternal Sunshine of the Spotless Mind,' which explores what might happen if people could choose to have unwanted memories erased) is a delightful exploration of syncopation in all its forms, and the Equinox delivers all this delightfulness. The go-to is, however, Grande's vocals, just because of how superbly well the Halcro communicates them.

If it's a beautiful voice you're after, you must hear Melbournian songstress Grace Cummings. Her latest album, 'Ramona', is her most sonically ambitious yet and the first in which her vocals are front and centre rather than hidden somewhere backstage. She's not shy about borrowing from greatness, the title track being a dead giveaway, so you'll also hear from Neil Young and a Beatle or two, but the album is so wonderfully assembled that everyone quoted would no doubt approve. Check out the stunning sound of the bass and piano on *Love and the Canyon*!

As my listening sessions progressed, it was evident that the Equinox's delivery was beautiful no matter what music I fed it. The sound was perfectly presented and balanced from the deepest bass to the highest treble, and there was zero background noise at any time, not to mention a complete and absolute lack of audible distortion. I was convinced I was always hearing exactly what the creative artists and their technicians wanted me to — nothing more, nothing less. I could not wish for more from a preamplifier.

CONCLUSION

Ultimately, Halcro's new Equinox is the best preamplifier I have ever had the pleasure of auditioning. My pleasure was somewhat tinged by sadness that its asking price is a bit — actually, far — beyond my means. The good news for those who do have the means to purchase a preamp in this upper echelon of high-end hi-fi is that they won't have to concern themselves about whether they could do any better. They can't. For anybody who demands the very best, the Halcro Equinox is it. ***Greg Borrowman***

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Warranty: Five years

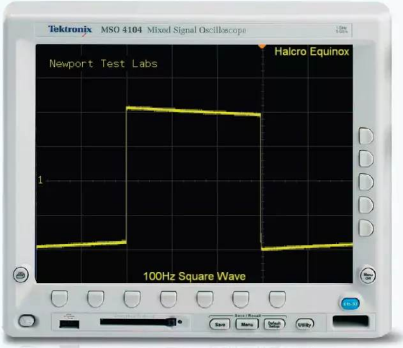
-37.5
dB
SACD
Phase: IN
HALCRO

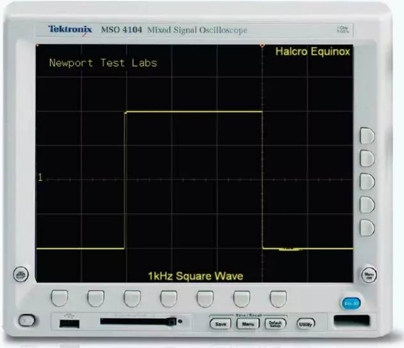
Laboratory Test Report

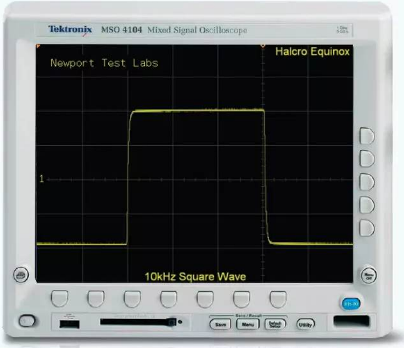
Readers interested in a full technical appraisal of the performance of the Halcro Equinox preamplifier should continue on and read the LABORATORY TEST REPORT published on the following pages. Readers should note that the results mentioned in the report, tabulated in performance charts and/or displayed using graphs and/or photographs should be construed as applying only to the specific sample tested.

Newport Test Labs measured the Halcro Equinox's frequency response as extending from 3.3Hz to 352kHz –3dB, showing it is an exceptionally wideband device. The tabulated results on the following page show that the 1dB down-points of the response were at 7Hz and 181kHz. Graph 3 (also overpage), which shows the response between 5Hz and 40kHz (the graphing limits for this particular test), reveal an absolutely ruler-flat line between 80Hz and 15kHz, with the response only 0.01dB down at 40kHz and 0.1dB down at 20Hz. This graph shows the measured audio band response as 20Hz to 20kHz ±0.05dB. It really doesn't get better than this, nor does it need to!

Separation between the stereo channels was incredibly good, again evident in the tabulated results: 134dB at 20Hz, 144dB at 1kHz and 121dB at







20kHz. Balance between the two channels was also exceptionally good — just 0.012dB at 1kHz.

Newport Test Labs measured wideband THD+N as 0.0002%, but this figure is actually the limit of the analyser's ability to measure distortion, and is mostly the 'noise' (+N) component. The distortion component of this result is shown in Graph 1, and you can see that there are essentially zero distortion components higher than –120dB (0.0001%). Look carefully and you will see two 'blips' — one at 3kHz and the other at 5kHz — but these are simply residual distortion components of the signal generator used to conduct the test. Essentially, the Equinox's harmonic distortion was so low it was beyond the measuring ability of *Newport Test Labs*. `

The Equinox's harmonic distortion was so low it was beyond the measuring ability of Newport Test Labs

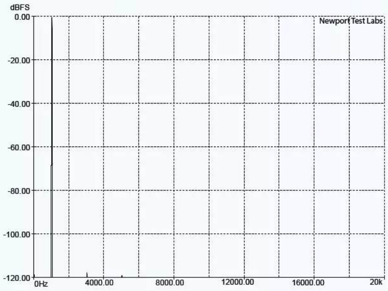
The signal-to-noise measurements were also exceptionally good, with the lab measuring 110dB A-weighted for 1V-in/1V-out and 123dB A-weighted referenced to maximum output which, at 15.39 volts, is a higher output than you'll ever need. The reason for these exceptionally good SNR results is evident when you look at Graph 2. It shows the noise spectrum of the Equinox's output referenced to an output of one volt, and you can see that, other than a tiny signal at 50Hz (some mains frequency bleed-through) at –130dB (0.00003%) and some harmonics of the mains frequency at lower levels, the wideband noise floor is more than 150dB down.

Performance with square waves was also outstandingly good. The shape of the waveform with a 1kHz test signal is nigh-on perfect, looking as if it came straight from the signal generator. The 100Hz waveform shows the tiniest amount of tilt (the result of the low-frequency response rolling off at 3.3Hz), while the 10kHz waveform shows an exceptionally fast rise-time with only the tiniest amount of leading-edge rounding to reveal the 352kHz upper –3dB down-point of the high-frequency response. The slew rate is therefore very high, as Halcro claims.

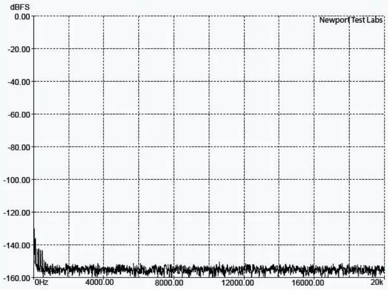
The Halcro Equinox is by far and away the highest-performing preamplifier ever measured by *Newport Test Labs*, returning results close to the limit of (and for distortion, beyond it!) the lab's ability to measure. ***Steve Holding***

Halcro Equinox Preamplifier – Laboratory Test Results

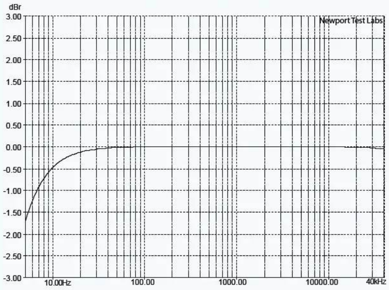
Test	Measured Result	Units/Comment
Frequency Response @ 1 volt output	7Hz – 181kHz	–1dB
Frequency Response @ 1 volt output	3.3Hz – 352kHz	–3dB
Channel Separation (dB)	134dB / 144dB / 121dB	(20Hz / 1kHz / 20kHz)
Channel Balance	0.012dB	@ 1kHz
Interchannel Phase	0.9 / 0.05 / 0.13	degrees (20Hz / 1kHz / 20kHz)
THD+N	0.0002%	@ 1-volt output
Signal-to-Noise (unwghted/wghted)	105dB / 110dB	dB (1-volt in/1-volt out)
Signal-to-Noise (unwghted/wghted)	118dB / 123dB	dB (re maximum output)
Input Sensitivity (Balanced input)	1 volt	for 5.453V out
Maximum Output Level (Balanced)	15.39 volts	at 1kHz
Maximum Output Level (Unbalanced)	7.69 volts	@1kHz
Mains Voltage Variation during Test	239 – 244	Minimum – Maximum



Graph 1. Total harmonic distortion (THD) at a one-volt output



Graph 2. Signal-to-noise (SNR) referenced to a one-volt output



Graph 3. Frequency response at 1-volt output

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to buy at a Hi-Fi Shop

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	The Hi-Fi Shop	**The Chain Store**	**The Internet**
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2	Receive reliable personal advice	Bit of a lottery on the advice front	No advice
3	Expect to be asked about your needs and music	Expect to be asked about your budget	No filtering questions
4	Listen in a room environment before you buy	Listen over a noisy shop floor if you can listen at all	No listening
5	Have a nice coffee	There's a coffee shop three doors down in the Mall, mate	Make your own
6	Purchase with pride	Purchase in ignorance	Purchase with fear
7	Get a full warranty with local return point	Be offered an extended warranty you probably don't need	Warranty possibly void in Australia
8	After-sales service	After-sales what?	After-sales what?
9	Have an ongoing relationship	Rarely the same staff twice	No contact with staff
10	Relax and enjoy fine music	Relax and enjoy your mass-market bargain	Purchase and pray

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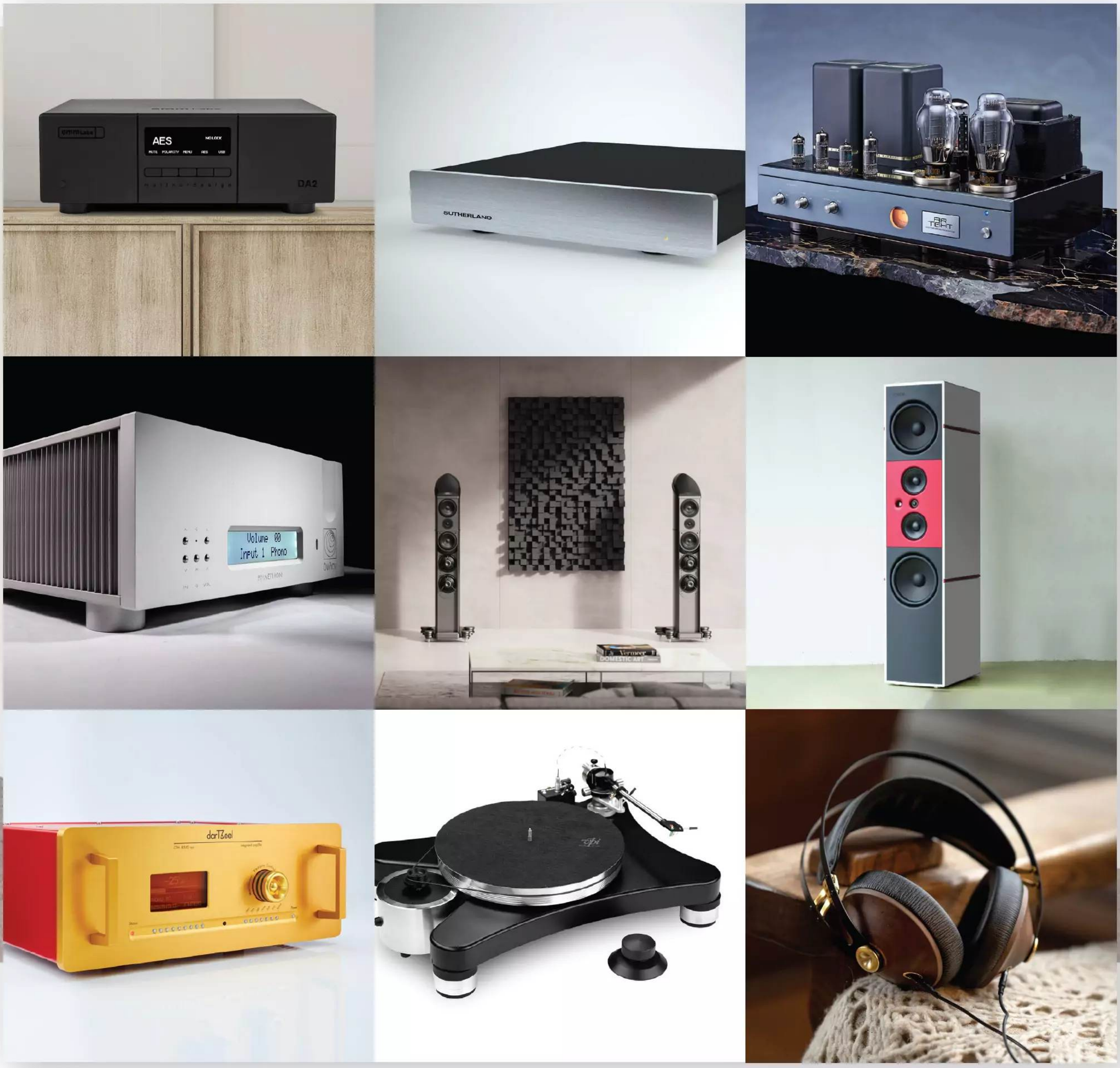
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MONO POWER AMPLIFIER

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P422
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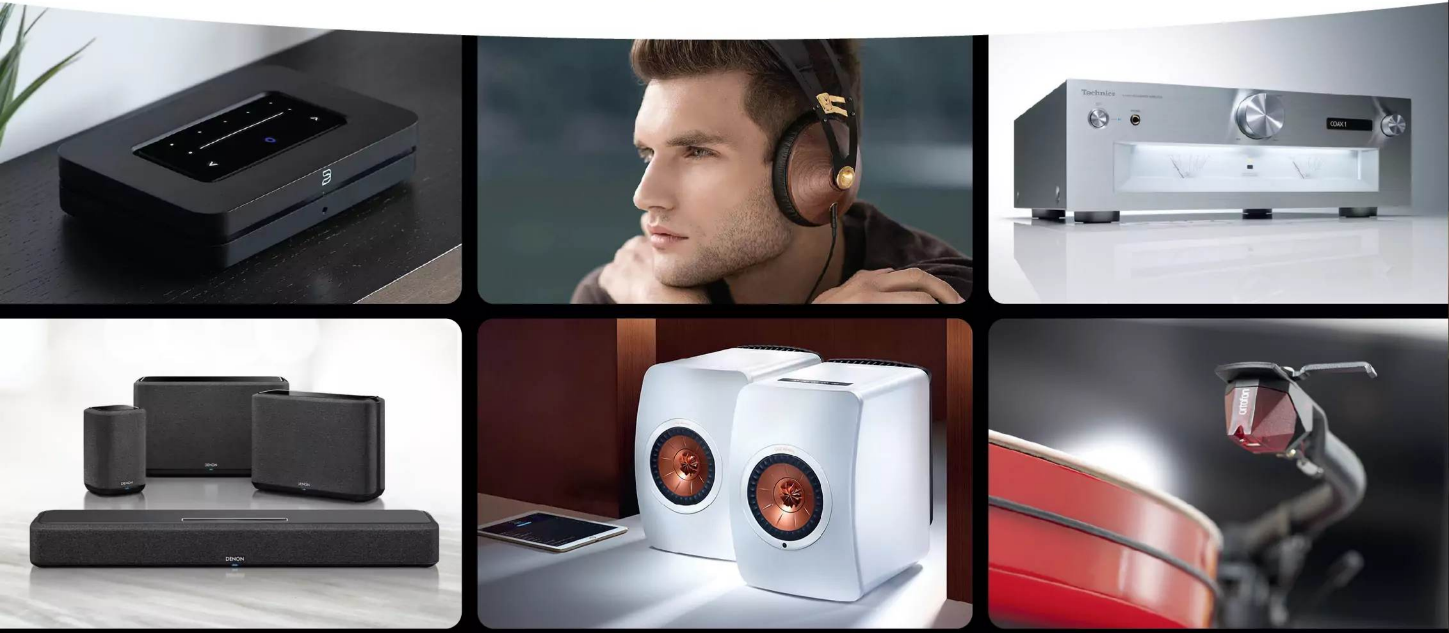

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Melanie

Reissues

CLEOPATRA

Melanie Safka's passing last January at the age of 76 received scant media attention, yet the singer-songwriter was one of the stars of the original Woodstock festival in 1969. What's more, she was responsible for its defining anthem. Most people remember Jimi Hendrix playing *The Star Spangled Banner*, or Joni Mitchell's titular *Woodstock*. But it was Melanie's *Lay Down (Candles In The Rain)* that summed up both the end of a turbulent decade and the culmination of the hippie dream: 'Some came to sing, some came to pray, some came to keep the dark away.'

Cleopatra Records is intent on keeping Melanie's legacy alive. Recent releases include 'Arabesque', a stylish repackage of her 1982 album, full of stunning vintage photos. Melanie never shied away from cover versions, and her rendition of fellow Greenwich Village folkster Barbara Keith's *Detroit Or Buffalo* is as plaintive as they come. Oh, and one of the bonus tracks is a foot-stompin' *In The Summertime*, the Mungo Jerry chestnut. C'mon, what's not to love?!

Two superb live recordings have also emerged: 'Central Park 1974' and 'Live At Drury Lane'. Both are on a par with the more celebrated 'Live At Carnegie Hall', the 1973 double album released via Melanie's own Neighborhood Records. Alone on stage under a solitary spotlight, this kaftan-clad siren magicked up an incandescent ambience of vulnerability, intimacy and intensity. To aficionados it was like a drug. They — we — just had to be close to it all.

'Lowcountry' is a reissue of an unheralded 1997 full-length album, low-key, stripped-down and full of chiming six- and 12-string guitars. The tremulous *Cerulean Blue* could be an outtake from Melanie's renowned 'Gather Me' LP; the jangling *Freedom Knows My Name* underlines her beat-generation roots. Further rootsiness can be found on 'Paled By Dimmer Light' (2004), a throwback to her soul-scorching 1968 debut album 'Born To Be'.

Just released is 'In Focus: Live '88', featuring — would you believe — Melanie alongside Focus guitar legend Jan Akkerman. The highlight is a transformational performance of the aforementioned *Candles In The Rain*. (No yodelling is involved.)

In 1971, Melanie had a hit with the single *What Have They Done To My Song Ma*, a bitter critique of her then record label, Buddha. Fifty-three years later, her catalogue is getting the respect it deserves.

Violent Femmes

Hallowed Ground

CRAFT

In 1983, the Violent Femmes' self-titled debut album had established them as something rather different: Americana before Americana existed, underlaid by flashes of indie and, in songwriter/guitarist Gordon Gano, a plaintive Jonathan Richman-esque vocalist. Few knew that a heap of songs had been left off that debut's final cut. The son of a priest, Gano was a keen Baptist, but bassist Brian Ritchie and drummer Victor DeLorenzo were card-carrying atheists. As Gano's musical influence waxed, his colleagues' resistance to Jesus waned. The rejected songs were resurrected to form 'Hallowed Ground', now newly available on coloured vinyl. It remains a glorious, whipsmart, undeniably Christian curveball that changed their direction forever. It sold a million and, with hindsight, probably doomed them. It was initially perceived as parody. When its seriousness became clear, the crowds dispersed.

Tom Petty And The Heartbreakers

Long After Dark

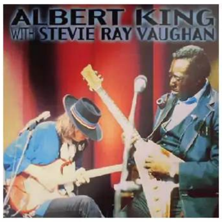
GEFFEN/UME

As pared back and unencumbered as Petty himself, the songs on this fifth album cut right to the creative quick, not least the darkly bubbling *You Got Lucky* single. It was also the album that introduced the world to bassist Howie Epstein, whose playing and harmony vocals were so ubiquitous in their sound that it was hard to imagine a time when he wasn't a Heartbreaker. It's difficult to gauge how deep the Petty vaults go, but if this reissue is any indicator then Heartbreaker fans have plenty to look forward to. It comes with an extra 12 tracks, including seven previously unreleased songs, extensive sleevenotes that include commentary from producer Jimmy Iovine and filmmaker Cameron Crowe, and some extraordinary French TV sessions. Petty's version of *Never Be You* (a country hit for Rosanne Cash) and an up-tempo version of *Ways To Be Wicked* (originally given to Lone Justice) are highlights.

Albert King With Stevie Ray Vaughan

In Session

CRAFT



This is an illuminating opportunity to get up close with two blues maestros as they join forces for a Canadian TV show recorded in 1983. What makes it so special is that there are no fancy production tricks getting in the way. The premise was as simple as the title suggests: just set the two of them up and press play. King was 60, Vaughan was 29, so there's an element of master and precocious pupil that's obvious from the moment King launches into his signature *Born Under A Bad Sign* before handing over to Vaughan for the night's first solo. And Vaughan does not disappoint. A decade earlier, King had reluctantly allowed a teenage Vaughan on stage, only to have his own licks fired back at him — so there is plenty of mutual respect going down. They're using King's band, so he gets to call the shots, although Vaughan's two contributions — *Texas Flood* and *Pride And Joy* — take up half an hour.

John Cale

The Academy In Peril & Paris 1919

DOMINO

A month before Lou Reed released the perfectly-timed glam-pop of 'Transformer', Cale was essaying his own post-Velvets path with an album of mostly faux-classical instrumentals. 'The Academy In Peril' is nobody's idea of a shrewd 1972 career move, despite witty Warhol artwork, but it's accessible to those with no educated ear for what Cale's training enables him to do. Something in its spirit connects with the era's temperature, and half a century later it resonates as a valuable, if not vital, work. A year later, he'd been persuaded to swing in the direction of pop rock songs, and 'Paris 1919' sets out the terrain he would mine over a subsequent prolific run of records. These high-toned reissues add bonuses. *Temper* is an on-the-nose depiction of a mad artist being obsessive and gifted, while the way *Fever Dream: You're A Ghost* hovers in liminal space between song and ambient sound is yet further proof of Cale's odd genius.

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